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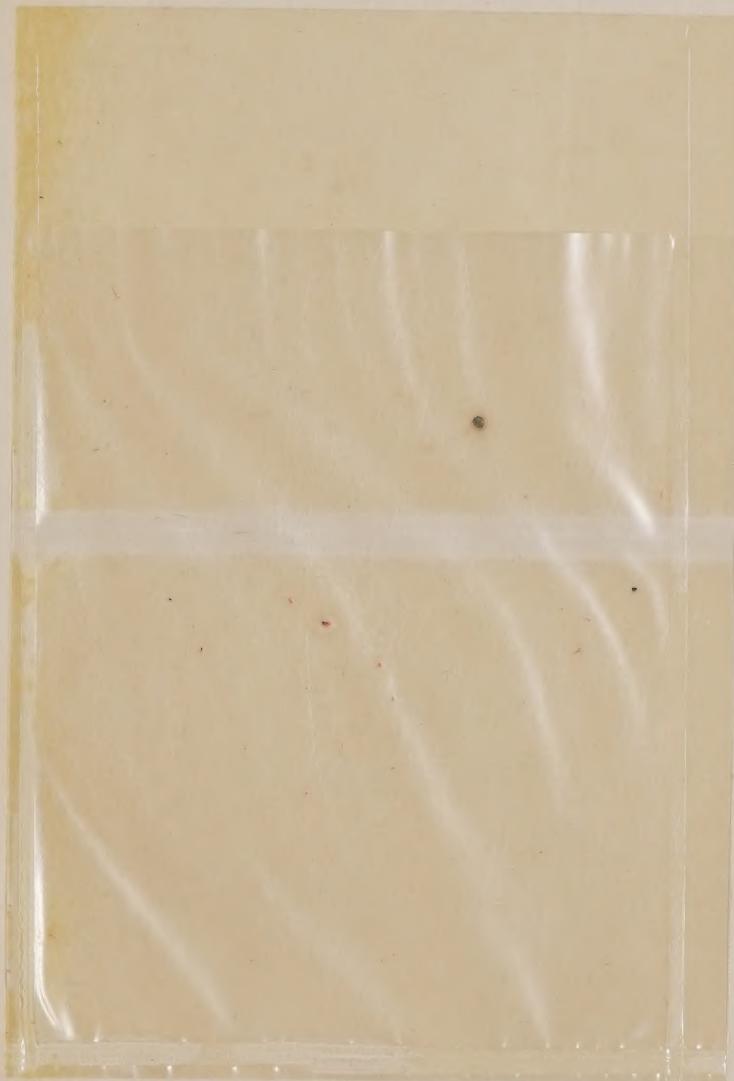
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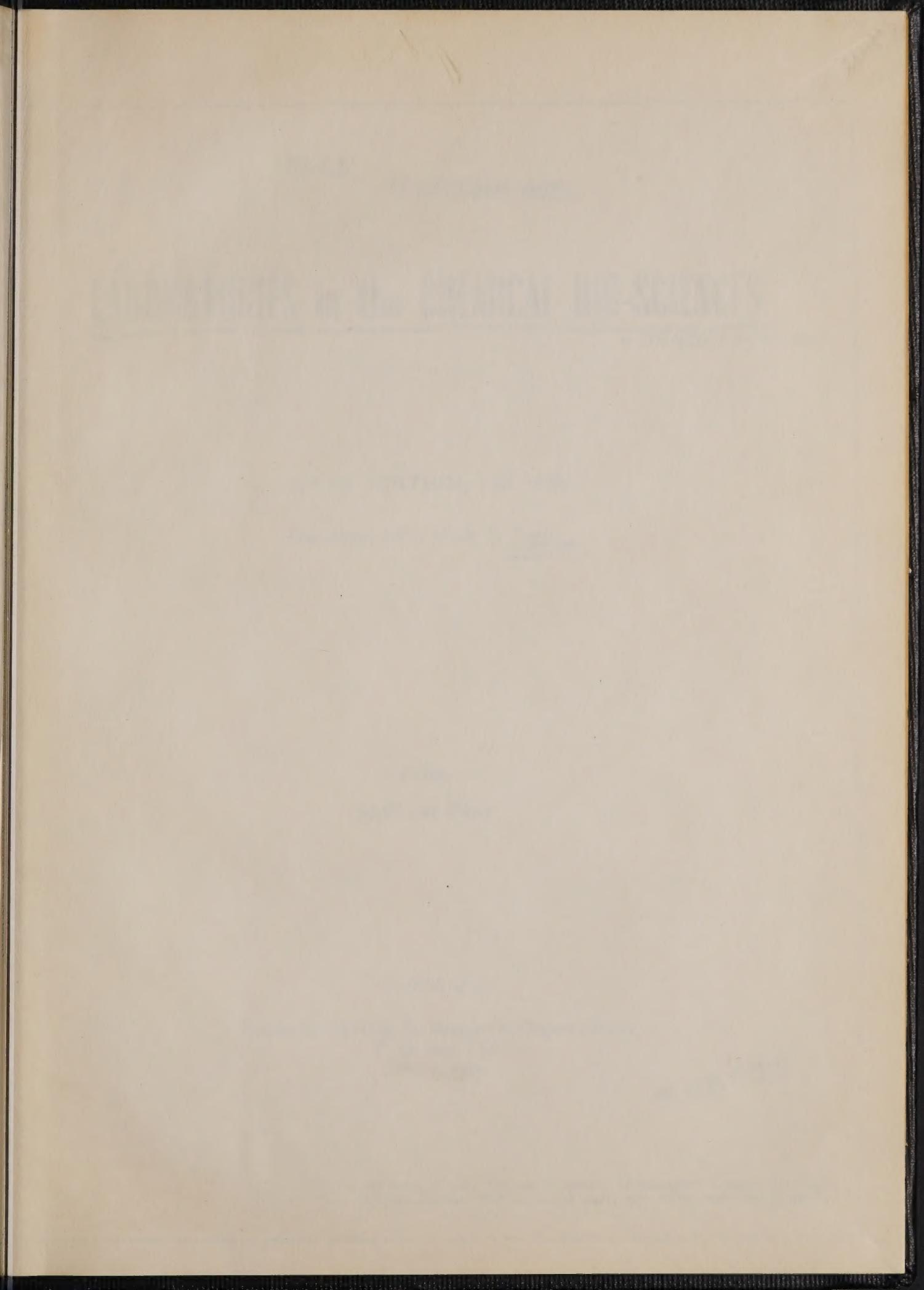
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REFERENCE

LABORATORIES in the CHEMICAL BIO-SCIENCES

—*Directory by Burns*

SIXTH EDITION, 1957-1958

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BLACK GOLD

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LABORATORIES in the CHEMICAL BIO-SCIENCES

-Directory by Burns

Laboratories of the United States and Canada are listed in the following pages. The arrangement in Canada is alphabetical; in the United States it is geographical, by states and cities, with respect to the location of the laboratory. The compilation is limited, as its title implies to laboratories which in one way or another, or to some extent are concerned in the chemical bio-sciences.

We do not contend that the designation is clear-cut and definite, especially so as we give it a broad interpretation, not observed too rigidly. And we emphasize that the classification only defines the scope of the publisher's effort, and is not an appraisal of the laboratory's functions.

But over the years, as it actually has worked out, we are altogether pleased with the field of usefulness possessed for ourselves with this Directory. The Directory has proved to be welcome wherever professional studies and investigations are in progress in food, feeds or nutrition. It is useful in the research and development departments that are responsible for products, processes and materials. Our work is valued among those engaged professionally in the vast industries now busy in many aspects of the agricultural sciences. We have a demand from the people whose professional interest is in pharmaceuticals, or the medical sciences, public health, hygiene or sanitation. And in addition there is an intricate and comprehensive fringe area surrounding the foregoing.

From all this it appears that we have made a contribution to a really definite segment of the chemical industry, chemical sciences and the chemical profession. It is necessary to explain, however, that we do observe a policy of certain omissions as to laboratories represented in this compilation. Clinical laboratories are not included, for example. Also, laboratories operated in connection with hospitals or clinics or state or municipal health departments are omitted. Likewise laboratories are omitted which are a part of schools, colleges or universities. Federal laboratories are included to the extent indicated in our general reference to United States government departments, under Washington, D. C.

On the basis here stated, our compilation is intended to be all-inclusive. Obviously there will be omissions; in some instances the laboratory will have escaped our attention. In other instances we have not been supplied with the official information. But none of the omissions are intended, and certainly there has been no conscious discrimination. We will welcome information or suggestions which in a future revision will add to our listings and data. Moreover the publisher is grateful for the generous and interested co-operation extended to us; it is a rewarding experience.

The information herein is compiled in every instance from official statements of the laboratories, companies or individuals listed. Every effort has been made to insure accuracy, and to avoid mistaken impressions. For that reason the publisher cannot be responsible for any errors or mis-statements. In future issues we shall be glad to make any corrections that may be called for, and we ask the courtesy of our readers in bringing any such to our attention.

ALPHABETICAL INDEX — Finding list for companies or individuals represented in the laboratory references is on pages 75 to 79, inc.

ALABAMA

BIRMINGHAM

THE PICARD TESTING LABORATORIES, INC.,
P. O. Box 1231, Birmingham 5, Ala.

Thomas C. Law, president.

Includes chemical analysis, cottonseed, peanuts and other oil seeds; feeds, fertilizers, water; control tests for food processing plants. This is a subsidiary of Law-Barrow-Agee Laboratories, Inc., 136 Forrest Ave., N.E., Atlanta, Ga.

SOUTHERN RESEARCH INSTITUTE,
917 South 20th St., Birmingham 5, Ala.
Dr. William M. Murray, Jr., director.

This is a non-profit research organization. The buildings and equipment were originally provided by a capital fund contributed by industry. The present plant includes five modern buildings, spacious and well-equipped, a total of 75,000 square feet of floor space. Thomas W. Martin has been chairman of the institute since its organization. All research is conducted on the basis of contracts with the sponsors. Among other fields, research is included on food and nutrition products, pharmaceuticals, cancer and virus chemo-therapy, organic chemicals, etc. The head of the biochemistry division is Dr. Howard E. Skipper, assistant director.

SOUTHERN TESTING LABORATORIES, INC.,
2227 First Ave. South, Birmingham 3, Ala.
George P. Thigpen, president.
T. C. Bradford, manager.
R. H. Ridgell, chief chemist.

Consulting commercial laboratory. Includes product development, research, control; also chemical analysis physical testing, inspection. Offices also at Chattanooga, Tenn., and Montgomery, Ala.

DECATUR

THE CHEMSTRAND CORPORATION, Research & Development Department,
Decatur, Alabama.
Frank J. Soddy, vice pres & director of research & development.
At this location, research and product development

laboratories related to mfg. "Acrilan" acrylic fiber, nylon and new fibers. Includes chemistry, all branches, chemical engineering, physics, mathematics, optics, R. W. Sudhoff, associate director of development; W. H. Hindle, associate director in charge of dyeing and finishing. Others on the staff: Dr. D. W. Chaney, asst. director in charge of research division; S. Jack Davis, in charge of textile research division; W. R. Crabtree, in charge of administrative division; R. F. Wymos, in charge of patent and trade mark division. Control laboratory, Acrilan plant, also at Decatur; nylon control laboratory at Pensacola, Fla.

ENTERPRISE

SESSIONS COMPANY, INC.,

P. O. Box 352, Enterprise, Ala.

Product development, research and quality control laboratories related to mfg. peanut and cottonseed oils, crude and refined, peanut butter and peanut meal. J. R. Baxley, chemist. The laboratories are at 829 N. Main St., Enterprise, and the offices of the company on West College St.

MOBILE

COURTAULDS, INC., Research

P. O. Box 1025, Mobile, Ala.

John Wharton, director of research.

Product development and research laboratories related to mfg. synthetic fibers; includes organic and physical chemistry, physics, analytical. The staff includes the following: Dr. K. H. Tauss, organic chemistry; Dr. Irwin Norman, physical chemistry; Dr. N. P. Rowell, physics; J. H. Filling, Jr., analytical; H. F. Wise, special projects; D. S. Nelson, pilot plant. Main offices of Courtaulds, Inc., are at 600 Fifth Ave., New York, N. Y.

MONTGOMERY

LABORATORY BRANCH, VIRUS & RICKETTSIA SECTION, Communicable Disease Center,
P. O. Box 61, Montgomery 1, Ala.

Dr. Morris Schaeffer, chief.

This is one of four laboratory sections of the Center's Laboratory Branch; the other three sections are located at Chamblee, Ga. to which please refer.

4 ALASKA ALASKA

ANCHORAGE

ARCTIC HEALTH RESEARCH CENTER, Bureau of State Services, Public Health Service, P. O. Box 960, Anchorage, Alaska. Ardeil G. Colyar, M.D., medical director, officer in charge.

This is one of the field installations of the Bureau of State Services, Division of General Health Service, Public Health Service; and it works in co-operation with the Alaska Department of Health, Charles R. Hayman, Acting Commissioner, Juneau, Alaska. The Center carries on field and laboratory investigations of communicable diseases, environmental sanitation and other aspects of health peculiar to low-temperature areas. Its program includes surveys of morbidity, nutrition and dietary practices, and studies of physiological adaptation and other biological processes. The chief of the Division of General Health Services is Dr. Jack C. Haldeman, and the Division is part of the Public Health Service, U. S. Department of Health, Education & Welfare. See our general reference to U. S. government departments, Washington, D. C. We also show at the locations indicated, other field installations of the Bureau of State Services, namely, the Robert A. Taft Sanitary Engineering Center, Cincinnati, Ohio, and the Communicable Disease Center, Atlanta, Ga.

KETCHIKAN

FISHERY PRODUCTS LABORATORY, Fish & Wildlife Service, U. S. Department of the Interior, 822 Mission St., Ketchikan, Alaska.

This is one of four laboratories of the fishery technological studies of the Fish & Wildlife Service; the other three are at Seattle, Wash., Boston, Mass., and College Park, Md. They are all included in our general reference to United States government departments, Washington, D. C., to which please refer.

PALMER

AGRICULTURAL EXPERIMENT STATION, Palmer, Alaska.

Don L. Irwin, director.

Allan H. Mick, associate director.

This station is one of three administered by the Territorial Experiment Stations Division of the Agricultural Research Service, U. S. Department of Agriculture, Washington, D. C. The other two are respectively in Puerto Rico and in the Virgin Islands. David V. Lumsden is director of the Division. Investigations of the station are directed principally toward the solution of agricultural problems under sub-arctic and arctic conditions. In addition to the administrative work, eight research departments are now functioning on a full-time basis; they are: Soils science, agronomy, horticulture, animal industry, agricultural economics, agricultural engineering, entomology and plant pathology. The senior research staff as of March, 1956, includes: Roscoe Taylor, agronomist; William Sweetman, animal husbandman; C. Ivan Branton, agricultural engineer; Winston Laughlin, soil scientist, Charles Logsdon, plant pathologist; Richard Washburn, entomologist; H. Prentiss Gazaway, economist and marketing specialist; Myron F. Babb, horticulturist. The program of this station is co-operative with that of the experiment station of the University of Alaska, at Fairbanks, Palmer and Petersburg. These latter stations are administered by the Office of Experiment Stations, as are the agricultural experiment stations in the United States. See our general reference to U. S. government departments, Washington, D. C.

ARIZONA

NOGALES

FRENCO LABORATORIES, P. O. Box 977, Nogales, Ariz.

Chester D. Franch, managing owner.

Importers, chemists, manufacturers of enzyme products, papaya products.

PHOENIX

VALLEY LABORATORIES, INC., P. O. Box 4153, Phoenix, Ariz.

Michael J. Sullivan, president, director.

Consulting commercial laboratory specializing in agricultural services and toxicological analyses.

CALIFORNIA

ALBANY

WESTERN UTILIZATION RESEARCH BRANCH, 800 Buchanan St., Albany, Calif. Dr. Michael J. Copley, chief. Wallace B. Van Arsdel, associate chief.

This is one of four "Branches" of similar title administered by the Agricultural Research Service, U. S. Dept. of Agriculture, G. E. Hilbert, director, utilization research. This Branch is concerned, for the most part, with products and by-products of western agriculture, including fruits, vegetables, forage crops, sugar beets, rice, wheat of that area, wool and poultry. Enumeration of nine "Sections" in the organized set-up will indicate to some extent the scope of its investigations: Analytical, physical-chemical, and physics; Charles H. Kunsman, head. Engineering and development, William D. Ramage, head. Field crop utilization, George O. Kohler, head. Fruit processing, Eugene F. Jansen, head. Vegetable processing, William F. Talburt, head. Pharmacology, Floyd DeEds, head. Poultry products, Hans Lineweaver, head. Protein, Harold P. Lundgren, head. Mechanical services, Philip L. Blake, head. The Branch also includes three field stations. One is at 263 South Chester Ave., Pasadena, Calif., Elmer A. Beavens, in charge, fruit & vegetable chemistry laboratory. The others are at Prosser, Wash., and Puyallup, Wash., Alfred M. Neubert in charge, U. S. fruit & vegetable products laboratory. See also our general reference to United States government departments, Washington, D. C.

AZUSA

LUCKY LAGER BREWING CO., Azusa, Calif.

Please see our reference to this company at main office address, San Francisco, Calif.

BAKERSFIELD

HORNKOHL LABORATORIES,

P. O. Box 867, Bakersfield, Calif.

Frank Hornkohl, manager and owner.

Essentially a consultant chemical engineering laboratory in oil production, agriculture and mining; however, also state licensed for biological work in water supplies and sewage, as well as bacteriological work.

BERKELEY

BERKELEY YEAST LABORATORY,

3167 College Ave., Berkeley 5, Calif.

J. H. Fessler, manager & owner.

Related to mfg. yeast cultures and other food products. Includes also consulting.

BIO-RESEARCH LABORATORIES,

2437 Sixth St., Berkeley 2, Calif.

B. K. Shahrokh, director.

R. M. Chesbro, director.

Undertakes research problems in the fields of biochemistry and micro-biology; evaluation of germicides and fungicides; specializes in preparing biologicals and pharmaceuticals on order.

CUTTER LABORATORIES,

Fourth & Parker Sts., Berkeley 10, Calif.

Robert K. Cutter, M.D., president.

Edward A. Cutter, Jr., exec. vice president.

Fred A. Cutter, vice president & secretary.

H. R. Lange, vice pres. for sales & finance.

T. R. Sandberg, vice pres. for manufacturing.

Manufacturers of biologicals, pharmaceuticals, human blood derivatives, and intravenous solutions for hospital use; also blood collecting and administering equipment; and veterinary and pharmaceutical products. Research laboratory at this location related to the development and manufacture of the foregoing products. W. E. Ward, M.D., medical director; Fred F. Johnson, Ph.D., associate director of research. The address given above is the site of the firm's main plant which includes some 36 buildings. There is also a plant at 1800 Crutchfield St., Chattanooga 6, Tenn.; and a ranch of 416 acres in Contra Costa county, California. A subsidiary is Ashe Lockhart, Inc., 800 Woodswether Road, Kansas City, Mo. Another subsidiary is Haver-Glover Laboratories, manufacturers of veterinary pharmaceuticals, 1915 Broadway, Kansas City, Mo.; and a subsidiary, Plastron Specialties, Inc., manufacturers of extruded plastics, is at 786 Ceres Ave., Los Angeles 21, Calif.

CALIF. 5

THE GLIDDEN COMPANY, Durkee Famous Foods,
2900 Fifth St., Berkeley 5, Calif.

John E. Blum, technical director.

Control laboratory related to mfg. food products; is an affiliate of The Glidden Company, Union Commerce Bldg., Cleveland 14, Ohio., to which please refer.

NATIONAL CANNERS ASSOCIATION, Western Branch Laboratory,
1950 Sixth St., Berkeley 2, Calif.

Ira I. Somers, associate director.

This is one of two branch laboratories of the Association extending professional and practical services to members of the Association. Likewise, at the national headquarters, Washington, D. C., to which please refer, there is a laboratory of similar functions. The Western Branch Laboratory occupies, at the address shown above, a two-story building of comparatively recent construction which represents an investment of some one-half million dollars. On the first floor are offices, library, and sanitation and microanalytical departments. On the second floor are chemical, bacteriological and thermal engineering laboratories, and experimental kitchen, and animal room and a food inspection laboratory. Please see also our reference to the National Canners Association's Northwest Branch Laboratory, Seattle, Wash.

BEVERLY HILLS

BIOCHEMICAL PROCEDURES,
8350 Wilshire Blvd., Beverly Hills, Calif.

S. Louis Gaines, president.

Victor Aleck, director of laboratories.

Medical research and testing; industrial research, testing and product development. Gregory S. Duboff, D.Sc., director of endocrine studies division; C. Henry Sprague, Ph.D., director of dept. of pharmacology. This is also the West Coast office of Foster D. Snell, Inc., consulting chemists and engineers, New York, N. Y., the local operation being under the direction of S. Louis Gaines.

FRESNO

CALIFORNIA FIG INSTITUTE,

108 Olive Ave., Fresno, Calif.

Dwight K. Grady, chairman.

Dr. Robert M. Warner, director of research.

This is an organization representing dried fig producers. It maintains a laboratory at the address shown above, whose activities include investigations on insect control and on fig culture in general. Also the laboratory's program is concerned with research problems in processing, by-products, etc.

ROMA WINE COMPANY,
Fresno, Calif.

R. C. Auerbach, production control manager.

Bacteriology and yeast laboratory for control of production of wines and brandies and their by-products.

SUNLAND INDUSTRIES, INC.,

P. O. Box 1669, Fresno 17, Calif.

G. F. MacLeod, technical vice pres.

R. E. Sellers, chemist.

Product development, research and control laboratory at this location related to mfg. fertilizers, insecticides, sulfur. The fields include chemistry, biology, entomology, agronomy, plant pathology.

THE TWINING LABORATORIES, INC.,

2527 Fresno St., Fresno, Calif.

Fred W. Twining, president & director.

Commercial laboratories. Include research, product development, wine, fertilizers, foods and feeds, cotton seed oil and fibre; also petroleum, engineering, physical, material testing, foundation soil, minerals.

FULLERTON

BECKMAN INSTRUMENTS, INC., Beckman Division,
2500 Fullerton Road, Fullerton, Calif.

J. F. Bishop, Gen. Manager.

Product development and research laboratories related to mfg. pH meters, spectrophotometers, mass spectrometers. Includes applied chemistry, applied physics, electronic, optical and mechanical engineering. On the staff: R. S. White and T. C. Fletcher. Other laboratories at South Pasadena, Belmont and Berkeley, Calif.

REAL GOLD COMPANY,

130 W. Santa Fe Ave., Fullerton, Calif.

Hans A. Zullig, director of quality control.

Product development, research and quality control laboratory related to mfg. Real Gold beverages and juices; includes biochemistry and food technology. Main office of the company is 550 Brookside Ave., Redlands, Calif.

GARDENA

S. O. BARNE & SON, INC.,

17250 S. Main St., Gardena, Calif.

J. Osman, Ph.D., director of research & control manufacturing pharmacists; private formulae. Product development and control laboratories related to this production.

GLENDALE

DON BAXTER, INC., Research and Production Laboratories,
1015 Grandview Ave., Glendale 1, Calif.

K. P. Pattengill, exec. vice pres. & general

manager.

Arthur Cherkin, vice pres. & director of re-
search.

Wendell I. Wall, vice pres. & plant manager.

Laboratory related to sterile solutions for injection, blood bank equipment, pharmaceuticals, nutrition products. Richard E. Burgess, director of control. Don Baxter, Inc., is a subsidiary of American Hospital Supply Corporation, 2020 Ridge Ave., Evanston, Ill.

ALBERT L. CHANEY CHEMICAL LABORATORY,

1503 E. Chevy Chase Drive, Glendale 6, Calif.

Albert L. Chaney, Ph.D., Owner & Director.

Research laboratory which includes clinical biochem-
istry, analytical biochemistry, air pollution, toxicology,
K. D. Johnson, Ph.D., asst. director.

VITAMINERALS, INCORPORATED,

1815 Flower St., Glendale 1, Calif.

J. F. Gorman, II., president.

Kenneth M. Miles, director of research.

R. P. Butler, production manager.

Laboratory related to mfg. vitamin products, nutri-
tion products, pharmaceuticals. Frank Lanzillotti, chief
chemist; Allen W. Jackson, pharmacologist; Robert A.
Swan, marketing director.

GUSTINE

AVOSET COMPANY, Research Department,

417 First Ave., Gustine, Calif.

The company's skim milk and sterile products plant at this location. The laboratory is concerned with product and process development, also research and quality control. Main office of the company is 661 Geary St., San Francisco 2, Calif., and the firm's executive represen-
ting the laboratory is A. E. Poarch, research director. Avoset Company is the wholly-owned food products subsidi-
ary of Smith, Kline & French Laboratories, Philadelphia, Pa.

HOLLYWOOD

GENERAL FOODS CORPORATION, Bireley's Division,

1127 N. Mansfield Ave., Hollywood 38, Calif.

Research laboratory at this location, R. E. Cox, re-
search manager. Main office of General Foods Corpora-
tion, 250 North St., White Plains, N. Y., to which please
refer.

LODI

EAST SIDE WINERY,

P. O. Box 440, Lodi, Calif.

K. T. Anderson, gen. manager.

Quality control and research laboratory related to
mfg. wine, brandies, vermouths, calcium tartrate. Reg.
Gianelli, chemist.

LODI CELLARS OF WINE GROWERS' GUILD,

P. O. Box 850, Lodi, Calif.

Quality control and research laboratory related to
mfg. wine, brandies and their by-products. Allen G.
Pool, chemist.

LONG BEACH

BARNETT LABORATORIES, INC.,

6256 Cherry Ave., Long Beach 5, Calif.

Director: Office vacant at this writing.

Includes consulting and research, also quality con-
trol and product development on mfg. carotene, carrot
syrup.

6 CALIF.

LOS ANGELES (Includes Terminal Island.)
ADOLPH'S FOOD PRODUCTS MFG. CO.,
P. O. Box 8616, Los Angeles 46, Calif.

Research Department includes product development, research and quality control laboratories related to the production of Adolph's meat tenderizer and Adolph's salt substitute. Organic and inorganic chemistry, biochemistry, food technology. H. L. Kravitz, M.D., technical director.

AMERICAN POTASH & CHEMICAL CORPORATION,
3030 West Sixth St., Los Angeles 54, Calif.
Please see our reference to this company's Trona Research Laboratories, at Trona, Calif., and Whittier Research Laboratory, at Whittier, Calif.

BIO-SCIENCE LABORATORIES,
2231 S. Carmelina Ave., Los Angeles 64, Calif.
Sam Berkman, Ph.D., president.
Orville J. Golub, Ph.D., vice president.
Milton Segalove, Ph.D., treasurer.

Research, consultation and routine analytical services primarily for the food, drug, cosmetic and allied industries. Clinical laboratory also at 436 N. Roxbury Drive, Beverly Hills, Calif., Richard J. Henry, M.D., director, specializing in unusual tests in biochemistry, endocrinology, toxicology and bacteriology.

CALAVO, INCORPORATED,
4833 Everett Ave., Los Angeles 11, Calif.
Peter J. Stupin, research director.

Product development, research and quality control laboratory related to processing and marketing avocados. Includes food technology. This is an organization of the Calavo Growers of California, same address. A control laboratory likewise on avocados is operated at Escondido, Calif.

CALIFORNIA WALNUT GROWERS ASSOCIATION,
P. O. Box 3606 Terminal Annex, Los Angeles 54, Calif.

Donald M. Swarthout, director of research.
Chemical laboratory engaged in development of specific for rancidity in walnuts. Serge de Witte, chemist. Gen. manager of the association, James H. Bryce.

CARNATION COMPANY,
5045 Wilshire Blvd., Los Angeles 36, Calif.
W. C. Cross, vice president.

This is general office of the company. The research laboratories are at Van Nuys, Calif., to which please refer.

COMMERCIAL LABORATORIES,
947 S. Maple Ave., Los Angeles 15, Calif.
M. L. Johnson, director.
Includes consulting, research and quality control related to mfg. vitamin products. Connected with Vitamin Technologists, Inc., same address.

COURTLAND LABORATORIES,
1600 N. Bonnie Beach Place, Los Angeles 63, Calif.
Courtland H. Barr, president.
C. Hilyard Barr, vice president.

Related to biological and pharmaceutical mfg. The main products are: blood plasma, plasma fractionation products, immune serum globulin, poliomyelitis immune globulin, serum albumin, blood bank equipment; specializing in lyophilized products. Facilities also located at 5555 Valley Blvd., Los Angeles.

DALLONS LABORATORIES, INC.,
5066 Santa Monica Blvd., Los Angeles 29, Calif.
Oscar Dallons, president.

Manufacturers of ultrasonic generators for medical and industrial use; electrocardioscope and related diagnostic equipment; short wave diathermy apparatus; electrosurgical tissue-cutting equipment; ultraviolet generators for therapy and sterilization; also fabricators of technical and scientific quartz and glass specialties. Research laboratory on the foregoing at this location. Includes research and development in electronic applications and devices.

DARTELL LABORATORIES,
1226 S. Flower St., Los Angeles 15, Calif.
Norman Dartell, manager-owner.

Manufacturing laboratory with full control, for production of pharmaceutical, chemo-therapeutic and food supplement formulae marketed under Dartell name; also private formulae.

GRIFFIN-HASSON LABORATORIES,
648 East 21st St., Los Angeles 11, Calif.
Raymond V. Miller, director.

Consulting laboratory for research, development and production control in food products, especially for the dairy industry. Bacteriological and chemical problems.

HYLAND LABORATORIES,
4501 Colorado Blvd., Los Angeles 39, Calif.
Fred W. Marquart, president.
John W. Palmer, Ph.D., vice pres., treas. &
director of the laboratories.
Roy T. Fisk, Ph.D., director of research and control.

Research and control laboratories related to production of normal and antihemophilic human plasma, human immune globulin preparations, serum albumin, blood grouping and typing serums, other specialties from human blood, sterile solutions for injection, blood bank equipment, lyophilizing of pharmaceuticals, transfusion problems. John H. Weare, director of biological production, Howard J. Horn, production manager. Hyland Laboratories is a California corporation, wholly owned by Baxter Laboratories, Inc., Morton Grove, Ill., to which please refer.

H. E. MAURRY BIOLOGICAL CO.,
6109 S. Western Ave., Los Angeles 47, Calif.
H. E. Maury, general manager.

Pharmaceutical chemists mfg. parenteral solutions, hormones, vitamin products, private label formulae; research and product development.

MEDI-SYNTH LABORATORIES, INC.,
2619 Exposition Blvd., Los Angeles 18, Calif.
Dr. E. R. Lambertson, director of research & development.

C. E. Lawson, vice pres., production manager.
Manufacturers of pharmaceutical, chemical and biological products. Laboratory related to injectable preparations, pharmaceuticals, chemical and biological control on raw materials and finished products. There is also now a Veterinary Division, Julius Kay, manager director.

MISSION DRY CORPORATION,
P. O. Box 2477 Terminal Annex, Los Angeles 54, Calif.
Sara Blangsted, chief chemist.

Product development, research and quality control laboratory related to mfg. citrus juices and citrus products, soft drink flavoring bases.

E. R. MOLLNER COMPANY,
2405 Forney St., Los Angeles 31, Calif.
E. R. Mollner, chemist and sole owner.

Manufacturing food chemists. Laboratory related to food and nutrition products, special flavors and seasonings, specialty foods, hydrolyzed and intact protein.

NION CORPORATION,
1001 N. McCadden Place, Los Angeles 38, Calif.
Don Bleitz, exec. vice president.

Product development, research and control laboratory related to mfg. pharmaceutical products, tablets, syrups, powders, parenteral solutions, etc.; includes biochemical. Stan Dolezal, pharmacist.

PACIFIC COAST BORAX CO., Division of Borax Consolidated, Limited,

630 Shatto Place, Los Angeles 5, Calif.
E. A. Connell, vice pres., charge research & development.

Product development and research laboratories at this location related to mfg. borates, inorganic and organic, soaps; include all branches of chemistry, also biological. Director of industrial research is Dr. W. S. Taylor. Director of industrial research laboratory is

CALIF. 7

r. B. W. Fajans. Director of agricultural research is r. L. M. Stahler. Other laboratories of the firm are located at Wilmington, Calif., and Boron, Calif. Main office of the company is 100 Park Ave., New York 17, N. Y.

REDDI-WIP, INC., and affiliated companies,
8025 Melrose Ave., Los Angeles 46, Calif.
A. S. Lapin, president, Reddi-Wip, Inc.

Dr. Harry Pyenson, director of research.

Product development, research and quality control laboratories related to mfg. dairy products, food products, cream values for food and non-food products, Reddi-wip, Count-wip, Bake-wip, etc. Dr. A. P. Stewart, director, new products. Please see also our reference to Development Research, Inc., St. Louis, Mo., an affiliated facility.

REXALL DRUG COMPANY, Product Development Department,
8480 Beverly Blvd., Los Angeles 54, Calif.

J. R. Lindquist, director, product development department.

Laboratory related to mfg. pharmaceuticals, vitamin products, food products, cosmetics. Please see also our reference to Riker Laboratories, Inc., Los Angeles, which is a wholly-owned subsidiary of Rexall Drug Co.

RIKER LABORATORIES, INC.,
P. O. Box 3157, Terminal Annex, Los Angeles 54, Calif.

Dr. George L. Maison, president.

Dr. J. W. Stutzman, vice pres., research & development.

Research laboratories related to mfg. pharmaceutical ethical specialties. This is a wholly-owned subsidiary of Rexall Drug Company, Los Angeles, to which please refer. The staff includes the following: Dr. Georg Cronheim, director of biological sciences. Dr. Norman W. Karr, director of clinical investigations. Dr. G. W. Kusserow, director of organic research. C. M. Hauck, director of analytical & pharmaceutical chemistry. B. de Gorter, director literature & patents.

SHANKMAN LABORATORIES,
2023 South Santa Fe Ave., Los Angeles 21, Calif.
S. S. Shankman, director.

Analytical and consulting chemists. Includes food, vitamin, protein products, pharmaceuticals.

SILAS & COMPANY,
175 N. LaBrea Ave., Los Angeles 36, Calif.
Hershel Silas, owner.

Product development, research and control laboratory related to slaughter house by-products, thyroid, U.S.P., liver, N.F., adrenal cortex extract, ox bile extract, dehydrocholic acid; organic chemical, biological, chemical. L. Freedman, chief chemist. Includes consultation on pharmaceutical products.

SUNKIST GROWERS, INC.,
707 W. Fifth St., Los Angeles 13, Calif.

Main office of Sunkist Growers is at this address. The Research Department is located at 616 E. Grove St., Ontario, Calif., to which please refer. Also at the latter address is the Pharmaceutical Division of the Products Department.

STAR-KIST FOODS, INC.,
Terminal Way, Terminal Island, Los Angeles 54, Calif.

Research and development laboratory at this location, related to mfg. Star-Kist tuna and Star Kist Tuna products. Includes chemistry, bacteriology, thermal studies, process engineering. Robert K. Pedersen, director.

WM. T. THOMPSON CO.,
2727 Hyperion Ave., Los Angeles 27, Calif.
Tellef Senum, gen. manager.

Product development, research and quality control laboratory related to mfg. vitamins, dietary supplements, pharmaceuticals.

THURSTON LABORATORIES, INC.,
2457 Fletcher Drive, Los Angeles 39, Calif.
Emory W. Thurston, Sc.D., director.

Manufacturers of nutritional supplements. Product de-

velopment laboratory related to this production; includes pharmacy and biochemistry. H. B. McWilliams is asst. director. E. W. Thurston, Jr., general manager.

TRUESDAIL LABORATORIES, INC.,
4101 N. Figueroa St., Los Angeles 65, Calif.
Roger W. Truesdail, Ph.D., president.
C. E. P. Jeffreys, Ph.D., technical director.
Alvin S. May, director, technical sales.

Chemists, bacteriologists, engineers; consultation, research; includes sanitary engineers.

VITAMIN TECHNOLOGISTS, INC.,
947 S. Maple Ave., Los Angeles 15, Calif.
M. L. Johnson, president.

Please see our reference to Commercial Laboratories, same address.

CARL WILSON LABORATORY,
112 W. Ninth St., Los Angeles 15, Calif.
Carl Wilson, director and owner.

Shirley M. Hayden, assistant director.

Exclusively water quality and treatment, research, consultation and control.

MENLO PARK

STANFORD RESEARCH INSTITUTE,
Menlo Park, Calif.

E. Finley Carter, associate director and chairman of the management committee.
George R. Herbert, exec. associate director
Thomas C. Poulter and Ralph A. Krause, associate directors.
Carl L. Titus, Merritt L. Kastens, John I. Yellott, assistant directors.

William C. Estler, director of public relations.
Although affiliated with Stanford University, the Stanford Research Institute is a separate organization, operating independently. It is stated, however, that intimate association with the University has probably been the most important single factor in the success of the Institute - now the second largest of its kind in the country. Dr. J. E. Wallace Sterling, president of Stanford, is chairman of the Institute's board of directors.

The full-time staff at the end of 1955 numbered 1,163 persons, including scientific, technical, managerial and service personnel. In addition, 40 consultants are on frequent call, and more than 60 research technicians are employed with the various laboratories on a part-time basis. Research volume in 1955 totaled \$10,029,278; and at the end of the year, 532 projects had been worked on during 1955, including 132 studies largely connected with national security, for federal agencies.

A major operation, involving groups from the three main research divisions, is the Southern California Laboratories, located at 820 Mission St., South Pasadena, Calif.

The Institute conducts research as an integrated team. For purposes of administration, the technical departments are divided under three divisions; physical sciences, engineering, and economics. These contain subdivisions concentrating on various types of problems; also research in a number of restricted areas is administered through laboratories specializing in certain fields. The services such as glass-blowing, photography, machine shop, and report reproductions, are available to all departments and laboratories.

The Division of Physical Sciences is made up of several special sections which concentrate on analytical and organic chemistry, chemical engineering, applied biology, physics, metallurgy and ceramics, as well as air research. Applied biology brings the full resources of the Institute to bear on industrial, state and government problems related to biology, microbiology, enzymology, plant physiology, pharmacology, toxicology, entomology, and the biological aspects of agriculture and food technology. In chemistry and chemical engineering, applied research is the most important category, although fundamental research has received its share of attention by the staff. The Air Research Laboratories, offering a complete service for industrial air pollution problems, are organized under the chemistry department. Donald L. Benedict is director of physical sciences research.

Other personnel on the executive staff, in addition to those named, include the following: William A. Casler, research co-ordinator; Charles A. Scarlett, manager of technical information services; Emo D. Porro, engineering co-ordinator.

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MODESTO
SHELL DEVELOPMENT CO., Agricultural Research Division,
Modesto, Calif.

Research laboratories at this location, also at Denver, Colo. Please see the latter reference for description and explanation. T. R. Hansberry is manager of the Modesto laboratory. Others on the staff are: J. van Overbeek, plant physiology dept.; W. A. Kreutzer, plant pathology dept.; C. W. McBeth, nematology dept.

MOUNTAIN VIEW
STAUFFER CHEMICAL CO., Agricultural Research Laboratory,
1496 E. Fremont St., Mountain View, Calif.
Dr. C. O. Persing, director of agricultural research.

Product development research and quality control laboratory related to agricultural chemicals; includes plant pathology, entomology, soils, toxicology, chemistry. Dr. S. C. Dorman, laboratory director. Main office of the company, 380 Madison Ave., New York 17, N. Y.; Dr. C. L. Arnold, director of research. Please see that reference.

OAKLAND

GERBER PRODUCTS COMPANY,
9401 San Leandro St., Oakland 3, Calif.
W. U. Hudson, vice pres., production & research.

At this location are two separate laboratories on baby foods, respectively research and quality control. B. Grossi, associate director of research, is in charge of the research laboratory; Dr. L. de Alcuaz is quality control laboratory manager. R. B. Wakefield is director of research, Gerber Products Co., Fremont, Mich.; research and quality control laboratory at the latter location, to which please refer. Quality control laboratory also at Gerber Products Co., Rochester, N. Y.

RED STAR YEAST & PRODUCTS CO.,
1384 Fifth St., Oakland 20, Calif.

Laboratory related to fermentation, food products, cultures. This is now a unit of Red Star Yeast & Products Co., Milwaukee, Wis., to which please refer.

ONTARIO

SUNKIST GROWERS, Research Department,
616 East Grove St., Ontario, Calif.

W. E. Baier, manager research department.

This is the organization of co-operating citrus growers of California and Arizona. The Products Department also is at this address, and in that dept. is the Pharmaceutical Division, of which R. C. Bruner is head, co-ordinating research and development in this field. Main office of Sunkist Growers, Inc., is 707 W. Fifth St., Los Angeles 13, Calif.

REDLANDS

REAL GOLD COMPANY,
350 Brookside Ave., Redlands, Calif.

This company's laboratories located at Fullerton, Calif. Please see that reference.

RICHMOND

CALIFORNIA SPRAY-CHEMICAL CORPORATION,
Lucas & Ortho Way, Richmond 4, Calif.
Leo R. Gardner, manager, research & development.

Research and control laboratory related to mfg. insecticides, organic chemicals, cultures. Field research supervisor, R. K. Thompson, west, and D. S. Marshall, east. Facilities at this location include a new bio-screening laboratory with rooms for raising experimental insect and animal colonies, also laboratories for testing new products on these insects and animals. Greenhouses also afford facilities for testing insecticides and fungicides. This corporation is a subsidiary of Standard Oil Co. of California, 225 Bush St., San Francisco 20, Calif. Eastern research laboratory is at Haddonfield, N. J., under the direction of T. W. Reed.

RIVERSIDE

FOOD MACHINERY & CHEMICAL CORPORATION, Packing Equipment Division,
Riverside, Calif.

Research and control laboratory related to the sterilization and preservation of fresh fruits and vegetables. A. F. Kalmar, chief chemist. The main office of the corporation is San Jose, Calif.; please see that reference.

SACRAMENTO
CALIFORNIA - STATE DEPARTMENT OF AGRICULTURE, Bureau of Livestock Disease Control.
State Bldg. No. 1, Sacramento 14, Calif.
Dr. W. W. Worcester, supervisor of laboratories.

Animal pathology laboratory at this location, concerned with disease control, includes serology, pathology, parasitology, bacteriology. Dr. T. W. Jackson, veterinary pathologist. Others on the staff: Dr. Bryan Mayeds and Dr. L. Tieken. Other laboratories of the Bureau of Livestock Disease Control are located as follows: San Gabriel, livestock and poultry pathology laboratory, Dr. E. E. Jones. Fresno, livestock and poultry pathology laboratory, Dr. G. N. Lukas. Petaluma, livestock and poultry pathology laboratory, Dr. L. Bartelt. Turlock, poultry pathology laboratory, Dr. S. L. Jamison. Lancaster, poultry pathology laboratory, Dr. W. H. Armstrong.

MORSE LABORATORIES

316 Sixteenth St., Sacramento 14, Calif.
G. H. Morse, director and owner.

Chemical engineer. Consulting and research laboratory in the fields of industrial chemicals and processes, proteins, forest products, waste utilization, agricultural products.

SAN DIEGO

WESTGATE-CALIFORNIA TUNA PACKING CO.,
28th St. & Harbor Drive, San Diego 12, Calif.
William S. Hamm, director of research.

Product development, research and quality control laboratory related to mfg. canned tuna, pet foods, by-products. Includes chemistry, bacteriology, engineering.

SAN FRANCISCO

AMERICAN CAN COMPANY, Pacific Division Laboratory,
Third & 20th Sts., San Francisco 7, Calif.
C. E. Lachele, manager.

This is one of the company's Technical Service Division laboratories. Main office of the company, 100 Park Ave., New York 17, N. Y., to which please refer.

AMERICAN SPECTROGRAPHIC LABORATORIES

557 Minna St., San Francisco 3, Calif.
Includes analysis, research, consultation. Charles E. Harvey, director.

ANRESCO

554 Fulton St., San Francisco 2, Calif.
Sylvan Eisenberg, director.

Chemical engineers and food technologists. Includes research, consulting, product development and laboratory control.

AVOSET COMPANY

661 Geary St., San Francisco 2, Calif.
A. E. Poarch, research director.

Offices of the company at this location; laboratory at Gustine, Calif., to which please refer.

JOHN BEARD MEMORIAL FOUNDATION

642 Capp St., San Francisco 10, Calif.
Ernst T. Krebs, Jr., director.

The John Beard Memorial Foundation is concerned with biological, biochemical and medical research. It is a non-profit organization founded, privately-owned and maintained through the benefaction of the Krebs family. The primary research project of the Foundation comprises the interpretation, extension and clinical application of the work of John Beard (1857-1924) who was an embryologist at the University of Edinburgh for the greater part of his career. The Foundation has been following this work for almost a decade. It has to its credit some notable discoveries and clinical development. Associates of the Foundation hold a total of some 32 domestic and foreign patents that have been assigned to the Foundation.

CALIFORNIA PACKING CORPORATION

215 Fremont St., San Francisco 19, Calif.
Main office also research department at this address. Research and quality control laboratory on canned fruits and vegetables, food specialties. J. E. McConkie, director. Branch laboratory at Emeryville, Calif.

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CURTIS & TOMPKINS, LTD.,
236 Front St., San Francisco 11, Calif.
H. de Bussieres, vice pres. & director.
Consulting; laboratory service includes research,
control of mfg. Dr. F. H. Eldred, chief research chemist.

FOREMOST DAIRIES, INC.,
425 Battery St., San Francisco 11, Calif.
Dr. C. A. Kempf, director of research & development.

Administrative offices of the company at this location.
Quality control, research and product development laboratory
operated as a department of the company. Related
to milk and mfg. food products.

FOUNDATION FOR AGRICULTURAL RESEARCH,
216 Market St., San Francisco, Calif.
H. M. Benninghoff, Ph.D., Vice President.

Consulting services on soil, water, crop analysis.
Research and control laboratories at this location include
chemical and biological investigations and processes.

GENERAL MILLS, INC., Sperry Operations,
116 New Montgomery St., San Francisco 6, Calif.

Research and quality control laboratory related to
mfg. flour, feed, cereals. W. F. Broom, manager, products
control department. Branch laboratories at Lodi,
Vallejo and Los Angeles, Calif.; Ogden, Utah; Spokane
and Tacoma, Wash. Main office of General Mills, Inc.,
is 400 South Second Ave., Minneapolis, Minn., to which
please refer.

LANGENDORF UNITED BAKERIES, INC.,
1160 McAllister St., San Francisco 15, Calif.
Stanley S. Langendorf, president.

Research and quality control laboratory related to
mfg. food products; James C. Finley, director.

LUCKY LAGER BREWING CO.,
2601 Newhall St., San Francisco 19, Calif.
Ruben Schneider, technical director.

Product development, research and quality control
laboratory related to beer and by-products. Harold
Rosoff, chief chemist. This is main office of the company.
Other laboratories in plants in Vancouver, Wash.,
Gerald Liebert, chief chemist; and Azusa, Calif., William
Schaeffer, chief chemist.

NATIONAL CAN CORPORATION, Pacific Division Research
Laboratory,
290 Division St., San Francisco 3, Calif.
J. S. Euphrat, director.

Laboratory on research and control of raw materials
that go into the manufacture of metal containers; includes
testing foods and general line products to determine
what types of containers are best suited. The corporation's
executive offices are 3217 West 47th Place,
Chicago 32, Ill., to which please refer.

PACIFIC CHEMICAL LABORATORIES,
350 Clay St., San Francisco, Calif.
Dr. Benno Lowy, director.

Consulting chemists specializing in research and development;
chemical and bacteriological laboratory. Includes
foods and beverages.

PACIFIC VEGETABLE OIL CORPORATION,
62 Townsend St., San Francisco 7, Calif.
John Kneeland, director, research & development.

Product development and quality control laboratories
at this location related to mfg. vegetable oils and
animal feeds. The staff includes George Kopas and
Richard Purdy.

PINEAPPLE GROWERS' ASSOCIATION,
215 Market St., San Francisco 5, Calif.
The Association has the co-operation of the Pineapple
Research Institute of Hawaii, Honolulu, T. H., to which
please refer.

STANDARD OIL CO. OF CALIFORNIA,
225 Bush St., San Francisco 20, Calif.
A subsidiary is California Spray-Chemical Corporation,
Richmond, Calif., to which please refer.

TRI-VALLEY PACKING ASSOCIATION,
240 Battery St., San Francisco, Calif.
L. L. Lehtin, secretary.

This is main office of the association. Research and
quality control laboratory at San Jose, Calif., to which
please refer.

SAN JOSE

BEECH-NUT PACKING CO.,
P. O. Box 759, San Jose, Calif.

Laboratory at this location on mfg. food products, H.
C. Strecker, head. Main office of the company, Canajo-
harie, N. Y., to which please refer.

FOOD MACHINERY & CHEMICAL CORPORATION,
333 W. Julian St., San Jose 5, Calif.
Paul C. Wilbur, vice president, director of
research.

This is main office of the corporation. At this location
also the Canning Machinery Division has a research &
development laboratory concerned principally with mfg.
canning machinery. It is one of six research laboratories
of the six operating divisions of the company. We
show also laboratory of the corporation at Lakeland, Fla.,
also that of the Niagara Chemical Division, at Middleport,
N. Y., and the Packing Equipment Division, at Riverside,
Calif. Please see also our reference to the Corporation
at New York, N. Y., for information on the new Central
Research Laboratory of the Chemical Divisions.

TRI-VALLEY PACKING ASSOCIATION,
P. O. Box 1270, San Jose, Calif.

Research and quality control laboratory related to
mfg. food products; N. E. Liles, chemist. Main office
of the company, 240 Battery St., San Francisco, Calif.
The company's executive representing the laboratory, L.
L. Lehtin, secretary, at the San Francisco address. Branch
laboratory at 13th & D Sts., Modesto, Calif.

STOCKTON

NELSON LABORATORIES,
1145 W. Fremont St., Stockton 3, Calif.

J. H. Nelson, manager and owner.
Agricultural chemists and consultants. Service on
agricultural problems, especially those concerning soil;
chemical analyses pertaining to agriculture.

SAN JOAQUIN RESEARCH LABORATORY,
P. O. Box 1987, Stockton, Calif.
Roger Loh, chief chemist, analytical dept.
D. K. Profitt, chief chemist, manufacturing
department.

Research, consulting, analytical chemists. Includes
agricultural, industrial and metallurgical analyses. Also
mfg. chemists and mfg. of levulose.

SUNNYVALE
LIBBY, MCNEILL & LIBBY, California Fruit Division,
Sunnyvale, Calif.

Laboratory at this location; H. K. McNeilly, manager,
quality control and research. Main office of the company,
Chicago, Ill., to which please refer.

TRONA

AMERICAN POTASH & CHEMICAL CORPORATION, Trona Research
Laboratories,
Trona, Calif.

J. F. Phillips, assoc. director of research.
Product development, research and quality control laboratories
related to mfg. potassium, boron inorganic compounds,
soda ash, salt cake, lithium carbonate, bromine.
Brand names, "Trona" and "Three Elephant." Includes
pilot plant and fundamental investigation of plant processes.
On the staff: H. Mazza, assistant director of research;
Dr. D. E. Garrett, Plant Development Division
research. Main office of the corporation, 3030 West 6th
St., Los Angeles 54, Calif.; please see that reference.

VACAVILLE

BASIC VEGETABLE PRODUCTS, INC.
Vacaville, Solano County, Calif.

Research and quality control laboratory. Undertakes
research on drying of vegetables; also is concerned with
control of in-process and finished dried vegetables such
as onions, potatoes, garlic. R. M. Stephenson, chief
chemist.

VAN NUYS

CARNATION RESEARCH LABORATORIES,
8015 Van Nuys Blvd., Van Nuys, Calif.

Dr. Philip K. Bates, gen. manager of research.
Dr. E. B. Oberg, director of research.
Product development and research laboratories of Car-

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nation Company, related to mfg. Carnation milk products, Albers cereals and dairy feeds, Friskies pet foods. Include chemistry, bacteriology, nutrition. Main offices of the company are at Los Angeles, Calif., to which please refer.

WASCO

PACIFIC YEAST PRODUCTS, INC.,
P. O. Box 1375, Wasco, Calif.
Robert A. Fisher, director of research & development.

Product development, research and quality control laboratory related to vitamin and antibiotic products, dried yeast. Includes biochemistry, analytical chemistry. George D. Lakata, laboratory supervisor. Dale W. Grant, head, microbiological research unit.

WHITTIER

AMERICAN POTASH & CHEMICAL CORPORATION, Whittier
Research Laboratory,
210 W. Washington Blvd., Whittier, Calif.

J. C. Schumacher, director of research.

Product development and research laboratories at this location related to research on organic derivatives of boron, and other compounds for industrial and agricultural use, such as fumigants, pesticides, etc. Includes organic synthesis and fundamental investigations of properties. E. Levens, asst. director of research, organic division; F. H. May, asst. director of research, inorganic division; W. D. Peterson, asst. director of research, Eston division; D. R. Stern, supervisor, electrochemical division. Main office of the corporation, 3030 West 6th St., Los Angeles 54, Calif.; please see that reference.

WILMINGTON

VEGETABLE OIL PRODUCTS COMPANY, INC.,
401 Canal Ave., Wilmington, Calif.

Laboratory concerned primarily with products made from, by or with vegetable oils and fats, marine oils and fats, or animal oils and fats. Research is directed toward development and utilization. Leonard P. Wiebe, chief chemist.

WOODLAND

INTERNATIONAL MINERALS & CHEMICAL CORPORATION, Research
Field Laboratory,
1246 Fortina Ave., Woodland, Calif.

Dr. A. C. Walker, research supervisor in charge. Field laboratory devoted primarily to research in sugar beet genetics. Main offices of the corporation are 20 N. Wacker Drive, Chicago 6, Ill.; Dr. Paul D. V. Manning, vice president in charge of research. Please see that reference.

CANAL ZONE

CANAL ZONE GOVERNMENT, Canal Zone.

Brig. Gen. W. E. Potter, governor.

Please see our general reference to U. S. government departments, Washington D. C., which includes a paragraph outlining health and sanitation services on the Isthmus.

COLORADO

BOULDER

ARAPAHOE CHEMICALS, INC.,
2800 Pearl St., Boulder, Colo.
Thomas D. Waugh, Vice Pres. & Director of Research.

Product development and quality control laboratory related to mfg. fine organics and pharmaceutical reagents and intermediates. Includes organic synthesis.

BRIGHTON

KUNER-EMPSON COMPANY,
Brighton, Colo.
R. Gale Besse, chief food technologist.
Robert W. Jackman, chemist.

Product development and quality control laboratory related to canning of various vegetables, and packing pickles. Includes chemistry, food technology.

COLORADO SPRINGS

HOLLY SUGAR CORPORATION, Research Department,
318 E. Colorado Ave., Colorado Springs, Colo.
W. H. Ziegler, senior vice president.
C. M. Nicholson, vice pres. & director of agriculture.

Product development and research laboratory related to sugar and sugar beet by-products. Includes chemistry, biochemistry, plant nutrition, animal nutrition. Guy Rorabaugh, manager, research department.

NATIONAL VACCINE & SERUM CO., INC.

501 E. Las Vegas St., Colorado Springs, Colo.
W. K. McKinley, president.

Laboratory related to mfg. veterinary biologics, vaccines, etc.

DENVER

COLORADO SERUM COMPANY,

4950 York St., Denver 16, Colo.

Majon Huff, president.

Research, consulting and control laboratory related to the production of animal biologics.

O. M. FRANKLIN SERUM CO.,

Livestock Exchange Bldg., Denver 16, Colo.

See our reference to this company, 109 N. Monroe St., Amarillo, Texas.

GREAT WESTERN SUGAR CO.

P. O. Box 5308, Terminal Annex, Denver 17, Colo.

E. H. Hungerford, director of research.

Two laboratories related to mfg. food products. Include research, process development, quality control.

THE INDUSTRIAL LABORATORIES CO.,

P. O. Box 2209, Denver, Colo.

M. A. Rust, director.

Manufacturing and consulting chemists; includes general analytical, food, feed, etc.

SHELL DEVELOPMENT CO., Agricultural Research Division,

P. O. Box 2171, Denver 1, Colo.

S. H. McAllister, director, Agricultural Research Division.

This includes research laboratories at both this Denver address and at Modesto, Calif. Laboratories at both locations are concerned primarily with research and product development. In addition, certain work dealing with Shell's commercial agricultural products, namely aldrin, dieldrin, endrin, D-D and CBP, is carried out at both laboratories. K. E. Marple is manager of the Denver laboratory; E. F. Feichtmeir, manager of product application. Others on the staff are: R. R. Whetstone, manager, organic chemistry dept.; P. E. Porter, manager, physical and analytical chemistry dept.; Y. P. Sun, manager, entomology dept. Please see also our reference to the Modesto, Calif., location, which includes personnel on the staff.

LAMAR

NATIONAL CHLOROPHYLL & CHEMICAL CO.,

Second & Washington Sts., Lamar, Colo.

John C. Kephart, vice pres. & director of research.

Product development, research and control laboratory related to chlorophyll, carotene, xanthophyll, phytol and other plant extractives. Includes chemical and biochemical. This is a division of Hofmann Industries, Inc., Sinking Springs, Pa.

CONNECTICUT

BETHANY

NAUGATUCK CHEMICAL DIVISION, Agricultural Chemical Section,

Bethany 15, Conn.

Dr. H. Douglas Tate, manager, agricultural chemical development.

Laboratories at this location primarily concerned with the biological aspect of research and development of new agricultural chemicals, particularly pesticides such as insecticides, fungicides, herbicides, growth regulators, mildew proofing agents, etc. The facilities consist of a laboratory, greenhouse, and a farm for growing row crops and fruits. The Naugatuck Chemical Division, 203 Elm St., Naugatuck, Conn., is a unit of United States Rubber Co., and Dr. D. Lorin Schoene is director of research & development. Main offices of United States Rubber Co. are 1230 Avenue of the Americas, New York 20, N. Y., to which please refer.

BRIDGEPORT

BRIDGEPORT TESTING LABORATORY,

14 Willow St., Bridgeport 8, Conn.

Analytical and consulting chemists. Jacob Dolid, Ph.D., director.

CONNECTICUT CHEMICAL RESEARCH CORPORATION,

706 Bostwick Ave., Bridgeport 5, Conn.

H. R. Shepherd, vice pres. in charge of research & development.

DEL. 11

Product development and research laboratory related to aerosol and aerated products. N. G. Smith, chief chemist.

MCKESSON & ROBBINS, INC., McKesson Laboratories, Bridgeport 9, Conn.

Dr. A. L. Omohundro, technical director.

Research, consulting and control laboratory related to mfg. pharmaceuticals, vitamin products, etc. Main office of the company, 155 East 44th St., New York 17, N. Y.

DANBURY

DAVIS & GECK, INC.,

1 Casper St., Danbury, Conn.

Dr. David Kaufman, technical director

Dr. D. F. Smith, director of development.

Research and control laboratory related to mfg. surgical sutures and surgical specialties. This is a unit of American Cyanamid Co., 30 Rockefeller Plaza, New York 20, N.Y., whose executive representing the laboratory is K. H. Klipstein, general manager of the Research Division.

GLASTONBURY

THE J. B. WILLIAMS CO.,

Glastonbury, Conn.

Dr. Douglas S. Smith, director of research & development.

Product development, research and quality control laboratory related to mfg. shaving products, toiletries.

GREENWICH

ROBERT B. CARROLL, PH.D., Consultant.

P. O. Box 955, Greenwich, Conn.

At this location, a greenhouse of 5,000 square feet of glass, is operated as a commercial greenhouse under the name "Greyledge". These facilities are varied to provide all the possible environmental conditions for testing a wide variety of plants as to their responses to various chemical treatments. A laboratory is maintained in conjunction with the foregoing, as well as for widely diverse chemical analyses. Includes product development, research, plant pathology, plant physiology, agronomy, chemistry. On the staff: Diana Bolling, protein and amino acid chemist.

HAMDEN

MARSHALL LABORATORIES, INC.,

2612 Whitney Ave., Hamden 18, Conn.

Bernard Lipman, D.V.M., president.

Product development, research and control laboratory related to mfg. biologics; vaccine production for poultry.

NAUGATUCK

NAUGATUCK CHEMICAL DIVISION, United States Rubber Co., 203 Elm St., Naugatuck, Conn.

Dr. D. Lorin Schoene, director of research & development.

Please see our reference to the Division's Agricultural Chemical Section, Bethany, Conn.

UNITED STATES RUBBER CO.,

Naugatuck, Conn.

Please see our reference to Naugatuck Chemical Division, United States Rubber Co., same address.

NEW HAVEN

ASSOCIATED SEED GROWERS, INC.,

205 Church St., New Haven 2, Conn.

Floyd L. Winter, Ph.D., vice pres., director of breeding & research.

Analytical and germination seed laboratory; maintains field stations also.

OLIN MATHIESON CHEMICAL CORPORATION,

275 Winchester Ave., New Haven 4, Conn.

Fundamental research department at this location; includes physical chemistry, inorganic chemistry, radiation chemistry, metallurgical physics. Also the agricultural research department is at this location. Executive offices of the Corporation, New York, N. Y., to which please refer.

NORWALK

THE PERKIN-ELMER CORPORATION,

Main Ave., Norwalk, Conn.

Van Zandt Williams, vice president, sales & research.

Product development laboratories at this location re-

lated to mfg. absorption spectrometers, flame photometers and electrophoresis gas chromatography. Includes all branches chemistry, physics, biology, etc.

SOUTH NORWALK

EDCAN LABORATORIES

10-20 Pine St., South Norwalk, Conn.

Katherine K. Bleakney, gen. manager.

Edward C. Sterling, Ph.D., director of research.

Chemical laboratory at this location including product development and research related to mfg. fine organics, special custom synthesis of pharmaceuticals, chemo-therapeutics, etc.

STAMFORD

AMERICAN CYANAMID COMPANY, Stamford Research Laboratories, 1937 West Main St., Stamford, Conn.

Dr. J. T. Thurston, director of the Stamford Research Laboratories.

R. F. Burghardt, director of process development department.

Dr. R. H. Kienle, director of research service department.

Dr. A. L. Peiker, director of product research department.

W. P. Pennoyer, director of operations dept.

Dr. H. H. Storch, director of basic research department.

Laboratories at this location are engaged in research projects for the Plastics and Resins Division, the Industrial Chemicals Division and the Agricultural Chemicals Division. Process Development and the Basic Research Departments represent projects in new areas assigned to the Stamford Laboratories. Important facilities for research in agricultural chemicals, which previously have been in use at Stamford, will continue to serve the Agricultural Chemicals Division. This is also true in regard to the facilities for work in the Plastics & Resins and Industrial Chemicals area. The facilities at Stamford have been definitely among the most modern and complete in the United States for research in these areas.

STANDARD BRANDS, INC., The Fleischmann Laboratories, Betts Ave., Stamford, Conn.

Dr. William R. Johnston, vice pres. & director of research.

Includes research related to food mfg., fermentation and the baking industry. Assistant director, Dr. L. Atkin; manager research service, Dr. S. Itter. Main office of Standard Brands, Inc., 595 Madison Ave., New York, N. Y., to which please refer.

DELAWARE

NEWARK

E. I. DU PONT DE NEMOURS & CO., INC., Stine Laboratory, Newark, Del.

The Du Pont company's Grasselli Chemicals Department maintains at this location research facilities of the Stine Laboratory, engaged in biological-chemical research on animal nutrition and pathology. Please see our reference to the company, Wilmington, Del.

WILMINGTON

ATLAS POWDER COMPANY,

Wilmington 99, Del.

Edward J. Goett, vice pres. in charge of Chemical Division.

Dr. Walter H. C. Rueggeberg, director, chemical research department.

Marshall T. Sanders, director, chemical engineering department.

F. Faxon Ogden, director, product development department.

The company's organization includes the Explosives Department and the Chemicals Division, both mail address Wilmington 99, as above. The Chemicals Division research laboratories, likewise one of the company's manufacturing plants are at Atlas Point, a site of 45 acres about three miles from Wilmington. Main office of the company is at Concord Pike & New Murphy Road, in the same general area. Explosives research is carried on in the experimental laboratory at Reynolds, Pa. Production of the Chemicals Division includes activated carbon as one important part, also synthetic detergents, emulsifiers, polyester resins, and "sorbitol". Problems related to these products, largely used in the food industries, cosmetics and pharmaceuticals, are a part of the responsibility of Central Research Laboratories.

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E. I. DU PONT DE NEMOURS & CO., INC.,
Wilmington 98, Del.
C. H. Greenewalt, president.
Samuel Lenher, vice president, advisor on
research.

Organization of the du Pont Company includes ten manufacturing departments. Each of these has research facilities at one or more manufacturing locations. Also each of the manufacturing departments now has laboratory facilities for long-range research at the du Pont Experimental Station, Wilmington. In addition to these ten manufacturing departments, there are three auxiliary departments that carry out research, and two of these have laboratories at the Experimental Station. The Experimental Station was established in 1903, grew gradually over the years, and was greatly expanded during the last decade. Further additions to the Experimental Station are currently under way. At present there are about 1,000 technically trained men and women engaged in research at the Experimental Station; this is something less than half the total of such personnel in the company. Research at the Experimental Station is of both a fundamental and applied nature with major emphasis being given to long-range investigations. In addition to its research laboratories the company maintains more than 50 technical service laboratories at various locations.

Of the ten manufacturing departments, only one is concerned in the chemical bio-sciences to any considerable extent. It is the Grasselli Chemicals Department; C. W. Davis, general manager; W. H. Salzenberg, assistant general manager. D. J. Loder is manager of the department's laboratories at the Experimental Station, which carry on research in organic chemistry, inorganic chemistry and in biology. Also included are chemical engineering studies and process development. One unit gives major attention to the application of chemicals to biological problems, for example as insecticides, plant-growth regulants, fungicides, seed-treating agents. In this connection, also at the Experimental Station, greenhouse research on plants is conducted by the plant research laboratory. Grasselli Chemicals Department also maintains research facilities at the Stine Laboratory, Newark, Del., T. R. Wood, manager, biological-chemical research on animal nutrition and pathology.

Of the three auxiliary departments mentioned above, there are two of special importance from our viewpoint. One of these is the Chemical Department, Paul L. Salzberg, director; M. M. Brubaker, assistant director. Laboratories of this department are all located at the Experimental Station. The Chemical Department is devoted entirely to research, and serves the entire company through its program of fundamental and long-range research. This research is carried out in close co-operation with the research divisions of the manufacturing departments. The Chemical Department's research is conducted largely in the fields of organic, inorganic, physical and analytical chemistry; biochemistry including micro-biological studies; and physics.

The Employee Relations Department is another of the auxiliary departments that command special attention in

this summary; and the principal facility is the Haskell Laboratory for Toxicology & Industrial Medicine. The director of the Employee Relations Department is E. F. Du Pont, and G. O. Andrews is assistant director. There is within the department, a medical division, of which Dr. A. J. Fleming is director; Dr. C. A. d'Alonzo is assistant director, and J. H. Foulger is director of medical research. John A. Zapp, Jr., is director of the Haskell Laboratory, and Johnathan W. Williams is assistant director. Work at the Haskell Laboratory is devoted to research on potential industrial hazards associated with the products and processes of Du Pont's manufacturing departments. Information thus developed is used also to instruct ultimate consumers on the safe handling of Du Pont chemicals and chemical products. In addition, results of fundamental studies undertaken in this laboratory are made available in the fields of industrial hygiene and medicine.

HERCULES POWDER COMPANY,
900 Market St., Wilmington 99, Del.
Dr. Robert W. Cairns, director of research.
Dr. Peter Van Wyck, director, Hercules Research Center.

The principal research activities of the company are located at Hercules Research Center, suburban to Wilmington. Here, extensive laboratories and a staff of 750, are devoted to research and development in several scientific fields, including those in industries related to protective coatings, paper, mining, fibers, plastics, agricultural chemicals, petroleum and rubber. There are six operating departments of the company, respectively, Cellulose Products, Explosives, Naval Stores, Paper Maker Chemicals, Synthetics, Virginia Cellulose. Adjacent to the Research Center is the Agricultural Chemicals Laboratory, built in 1953. Besides the main laboratory there are greenhouses and field test plots. The staff numbers 18, with Dr. E. N. Woodbury as supervisor and entomologist. The activities include entomology, plant pathology, agronomy, horticulture, nematology, and plant physiology as related to weed control and defoliation.

DISTRICT OF COLUMBIA

WASHINGTON
AMERICAN PHARMACEUTICAL ASSOCIATION,
2215 Constitution Ave., N.W., Washington 7,
D. C.

Robert P. Fischelis, secretary & gen. manager.
Research laboratory devoted to pharmaceutical problems and development of official standards for drugs, specializing on standards for the National Formulary, which is published by the American Pharmaceutical Association, the U. S. Pharmacopeia and the International Pharmacopoeia.

(Continued on page 16)

General Reference to—

UNITED STATES GOVERNMENT DEPARTMENTS

The departments of the United States government which require extended comment and explanation in this summary are the Department of Agriculture, the Department of Health, Education & Welfare, and the Atomic Energy Commission. Other departments are engaged in laboratory research in certain specific fields as a result of administrative responsibilities in that direction. These are interesting and important to the extent that they should be described, and we identify them and outline their respective fields of research. They are: Department of the Interior, Department of Commerce, and Department of the Treasury. And the armed forces are in a classification of their own; we make brief reference to certain agencies of the Department of the Army, the Navy and the Air Force. The information we give in all these references to United States government departments is from the latest official published sources.

Continuing our explanation, other references describe research activities within the Veterans' Administration the Tennessee Valley Authority, and the Canal Zone Government. The paragraphs herein, following immediately below, give the title and the address of the various departments we have mentioned. We show the street address of headquarters offices in Washington, D. C.; however, the mailing address for all federal agencies in the Dis-

trict of Columbia, so far as they are mentioned here, is Washington 25, D. C.

DEPARTMENT OF AGRICULTURE, 14th St. & Independence Ave., S.W., Washington 25, D. C. Ezra Taft Benson, secretary of agriculture; True D. Morse, under secretary. Office of Information, R. Lyle Webster, director. Our references following are under the headings, Agricultural Research Service, and Forest Service.

DEPARTMENT OF HEALTH, EDUCATION & WELFARE, Health, Education & Welfare Bldg., 330 Independence Ave., S.W., Washington 25, D. C. Marion B. Folsom, secretary of health, education & welfare; Lowell T. Coggeshall, special assistant for medical affairs. Our references following are under the headings, Public Health Service, and Food & Drug Administration.

ATOMIC ENERGY COMMISSION, 19th St. & Constitution Ave., N.W., Washington 25, D. C. Lewis S. Strauss, chairman, Atomic Energy Commission. K. E. Fields, general manager. Atomic Energy Commission; director, division of information services, Morse Salisbury.

DEPARTMENT OF THE INTERIOR, C St., between 18th & 19th

sts., N.W., Washington 25, D. C. Fred A. Seaton, secretary of the interior; William C. Strand, assistant to the secretary and director of information. Our references following are under the headings, Fish & Wildlife Service, and Bureau of Mines.

DEPARTMENT OF COMMERCE, 14th St. between Constitution Ave. & E St., N.W., Washington 25, D. C. Sinclair Weeks, secretary of commerce; Albert Leman, director, Office of Public Information. Our reference following is under the heading, National Bureau of Standards.

DEPARTMENT OF THE TREASURY, 15th St. & Pennsylvania Ave., N.W., Washington 25, D. C. George M. Humphrey, secretary of the treasury. Our reference following is under the heading, Bureau of Customs.

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AGRICULTURAL RESEARCH SERVICE, Department of Agriculture. B. T. Shaw, administrator; George W. Irving, Jr., deputy administrator, research; Ernest G. Moore, director, information division. This unit of the Department of Agriculture is under the Department's agency, Federal-State Relations. It conducts those control and regulatory programs which involve enforcement of plant and animal quarantines, the control and eradication of diseases and insect pests of animals and plants, meat inspection and related work. It carries out the Department's research in the physical, chemical and biological sciences as related to crops, farm and land management, livestock, home economics, also utilization research to develop new and expanded uses for farm commodities.

The responsibilities of the Service as outlined above are reflected in the organization of the Plant Pest Control Branch, William L. Popham, chief; the Plant Quarantine Branch, Eugene P. Reagan, chief; the Animal Disease Eradication Branch, Robert J. Anderson, chief; the Animal Inspection & Quarantine Branch, Cloyd L. Gooding, chief, and the Meat Inspection Branch, Albert R. Miller, chief.

Much of the Service's research is conducted at the Agricultural Research Center, Beltsville, Md.; please see our separate reference to this notable research institution under the title last mentioned, Beltsville, Md. However, the Service also conducts research at numerous locations in the states, territories and possessions, and in foreign countries. And a large part of the research is in co-operation with state agricultural experiment stations, some of the latter under contracts arranged for that purpose.

The state agricultural experiment stations mentioned above are under administration of the State Experiment Stations Division, Erwin C. Elting, deputy administrator. There is a historical background extending to 1888 for the leadership of the state experiment stations in co-ordinating the co-operative regional research which has been provided in each of the states. We omit extended reference to the state experiment stations. However, there is a related agency, Territorial Experiment Stations Division, Daniel V. Lumsden, director, under which are operating agricultural experiment stations in Alaska, Puerto Rico and the Virgin Islands. We make separate reference to these at the following locations: Palmer, Alaska; Mayaguez, Puerto Rico; Christiansted, St. Croix, Virgin Islands.

The Agricultural Research Service has another agency, Utilization Research, Guido E. Hilbert, director, which conducts research in chemistry and related physical sciences, technology and chemical engineering, on problems related to the conservation and industrial utilization of agricultural commodities and wastes for foods, feeds, drugs and non-edible products. There are four important stations which operate Utilization Research Branches at their respective locations across the country. We make separate reference herein to each of them, respectively the Northern, the Southern, the Eastern and the Western, Utilization Research Branches, in the same order, at Peoria, Ill.; New Orleans, La.; Wyndmoor, Pa.; Albany, Calif.; and our text makes full explanation of the staff and the fields of research.

FOREST SERVICE, Department of Agriculture, Richard E. McArdle, chief; Clare W. Hendee, assistant chief, administrative management and information; Verne L. Harper, assistant chief, research. This unit of the Department of Agriculture is under the Department's agency, Federal-State Relations. It has the responsibility for promoting the conservation and best use of the nation's forest lands, aggregating approxi-

mately one-third of the total land area of the United States. The Forest Service administers some 150 national forests located in 39 states, Alaska and Puerto Rico. This includes land utilization projects, experimental forests and other areas, and it entails investigations in the broad field of forestry and wild-land management. The entire very comprehensive program is administered through nine regional Forest & Range Experimental Stations, research centers and other units. One of these, a notable institution, is the Forest Products Laboratory, N. Walnut St., Madison 5, Wis., J. Alfred Hall, director. It was established in 1930, and it occupies a site on the campus of the University of Wisconsin.

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PUBLIC HEALTH SERVICE, Department of Health, Education & Welfare. Dr. Leroy E. Burney, surgeon general; W. Palmer Dearing, deputy surgeon general. There are several operating agencies of the Public Health Service. Perhaps the most prominent is the National Institutes of Health. The principal facilities of the latter are situated on a 300-acre tract at Bethesda, Md.; we make extended reference to the National Institutes of Health at that location. However, other than the seven national research institutes described in the Bethesda reference, there are certain agencies of the National Institutes of Health which are responsible directly to the director of the latter. Most of them have to do in one way or another with administrative functions; but there are two, organized as individual divisions, which are important from the viewpoint of this summary. They are, respectively, Division of Research Grants, and the Division of Biologic Standards.

The Division of Research Grants, National Institutes of Health, has responsibility for co-ordinating research, fellowship and training grants to qualified individuals and public or private institutions. Ernest M. Allen is chief of the Division; Clarence A. Lowe is administrative officer. Many projects are initiated as studies co-operative with other federal agencies and with private institutions and organizations. The studies of the component institutes are co-ordinated with a comprehensive program of research so that a particular problem may be approached through various related sciences.

The Division of Biologic Standards, National Institutes of Health, is the result of a recent reorganization. It became established as a separate entity responsible directly to the director of the National Institutes of Health. Previously the biologics control program had operated as a constituent laboratory of the National Institute of Allergy & Infectious Diseases. The Division retains the responsibility of licensing the manufacture and interstate sale of serums, toxins, vaccines and analogous products, including human blood and its derivatives applicable to the prevention and treatment of disease. Chief of the Division is Dr. Carl L. Larson, who is also director of the Rocky Mountain Laboratory, Hamilton, Mont. William G. Workman, M.D., who was previously chief of the Laboratory of Biologics Control, became assistant to the director of the Division.

The Bureau of Medical Services, Jack Masur, chief, and the Bureau of State Services, Otis L. Anderson, chief, are two units operating under the Public Health Service. The former, the Bureau of Medical Services, operates 16 hospitals, 23 outpatient clinics, and 97 outpatient offices for seamen employed on vessels of U. S. registry, Coast Guard personnel, and other federal beneficiaries of the Public Health Service. It administers 48 Indian hospitals, eight hospitals for natives of Alaska, 20 Indian health centers, and 14 Indian school infirmaries. The Bureau enforces foreign quarantine regulations covering sea, land and air traffic; and it conducts medical examination of immigrants, also crews and passengers of arrivals at sea and air ports. The Bureau provides technical and consultative services to the states; it administers a research program on development and utilization of hospital service; it supplies technical advice and personnel to other federal agencies in the health care of their employees and beneficiaries.

The Bureau of State Services is the principal operating bureau of the Public Health Service for federal, state and interstate health programs and for international health activities. It has a staff of about 3,000 employees of whom two-thirds are located in the field centers and regional offices. It conducts its programs through six divisions, namely: General Health Services, Special Health Services, Sanitary Engineering Services, Dental Public Health, International Health, Communicable Disease Center. Referring to the last named, we show as a separate reference, the Communicable Disease Center, at Atlanta, Ga. Also the Division of Sanitary Engineer-

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ing Services is identified with our reference to Robert A. Taft Sanitary Engineering Center, Cincinnati, Ohio. And the Arctic Health Research Center, shown in our reference at Anchorage, Alaska, is a typical activity of the Division of General Health Services.

FOOD & DRUG ADMINISTRATION, Department of Health, Education & Welfare. George P. Larick commissioner of food & drugs; John L. Harvey, deputy commissioner; Malcolm R. Stephens and Robert S. Roe, associate commissioners. On the administrative side, the Washington headquarters includes a Division of Business Operations, Roman Davila, executive officer; also Vivian R. Boardman, information specialist, and John J. McCann, Jr., records officer. Likewise the Washington offices are headquarters of eight laboratory divisions as follows: Division of Antibiotics, Henry Welch, chief; Division of Cosmetics, G. Robert Clark, chief; Division of Food, Frank A. Vorhes, Jr., chief; Division of Medicine, Albert H. Holland, Jr., M.D., medical director; Division of Microbiology, Glenn G. Slocum, chief; Division of Nutrition, Elmer M. Nelson, chief; Division of Pharmaceutical Chemistry, Frank H. Wiley, chief; Division of Pharmacology, Arnold J. Lehman, M.D., chief.

The Food & Drug Administration enforces the Food, Drug & Cosmetics act, the tea importation act, the import milk act, the caustic poisons act, and the filled milk act. Its activities are directed mainly toward promoting purity, standard potency, and truthful and informative labeling of commodities covered by the five acts. Also the responsibility of the Food & Drug Administration extends to the control of new drugs, establishment of food standards, pesticide tolerances and certification services. For enforcement purposes the organization is set up in 16 district territories, each with laboratory facilities and staff. Within these district territories are 36 inspection stations.

ATOMIC ENERGY COMMISSION, Washington 25, D. C., acts as a body on important matters of policy, programs and administration. The general manager, appointed by the Commission, is the principal executive and administrative officer. Responsible to him, in one department, is the assistant general manager for research & industrial development, Alfonso Tammaro. He assists the general manager by co-ordinating and directing the Division of Biology & Medicine, Dr. C. L. Dunham, director; the Division of Reactor Development, W. Kenneth Davis, director; and the Division of Research, T. H. Johnson, director.

The principal production facilities of the Atomic Energy Commission, likewise the research and development activities, are owned by the Commission and operated by contractors, the latter including industrial concerns, and private or public institutions. Major research and development facilities owned by the Commission include a number operated in connection with universities; among them are: Argonne Cancer Research Hospital, University of Chicago, Chicago, Ill.; Atomic Energy Laboratory, Iowa State College of A. & M. Arts, Ames, Iowa; Radiation Laboratory, University of California, Berkeley, Calif.; also its extension at Livermore, Calif.; Atomic Energy Project, University of California at Los Angeles, Los Angeles, Calif., Los Alamos Scientific Laboratory, Los Alamos, N. Mex.; operated by University of California, Berkeley, Calif.; Argonne National Laboratory, P. O. Box 5207, Chicago 80, Ill., operated by University of Chicago; Brookhaven National Laboratory, Upton, Long Island, N. Y., operated by a group of nine universities. Research facilities operated for the Commission by industrial firms include the following: Oak Ridge National Laboratory, Oak Ridge, Tenn., Union Carbide & Carbon Corporation; Knolls Atomic Power Laboratory, Schenectady, N. Y., General Electric Co.; Mound Laboratory, Miamisburg, Ohio, National Lead Co.

Referring back to the Division of Biology & Medicine, mentioned above, Charles L. Dunham, director, that organization includes: Howard C. Brown, Jr., executive officer; also Paul B. Pearson, is chief, biology branch; Walter D. Claus, chief, biophysics branch; Roy E. Albert, M.D., acting chief, medical branch.

Likewise, the Division of Research mentioned above, Thomas H. Johnson, director, has within its organization, a chemistry branch, Spofford G. English, chief; materials and information branch, Daniel J. Pflaum, chief; metallurgy and materials branch, Edward Epremian, chief; technical co-operation branch, Frederick T. Hobbs, chief.

FISH AND WILDLIFE SERVICE, Department of the Interior. John L. Farley, director; Arnie J. Suomela, assistant director, fisheries; Alastair Mac-Bain, chief, information officer (general). The Service maintains headquarters offices in Washington, D.C., five

regional offices, and some 580 field stations, including wildlife refuges, fish cultural stations, and field laboratories, located throughout the U. S. and in Alaska and Hawaii. The Service divides its work into a number of programs, of which those relating to fisheries are prominent. The latter include marine fisheries, inland fisheries, and commercial fisheries services.

Examination of these various programs discloses many interesting research projects. More or less at random, we mention some of them, all of them establishments of Fish & Wildlife Service, at the addresses given: Pacific Ocean Fishery Investigations, P. O. Box 3830, Honolulu, T. H. is engaged in research on productivity of the Central Pacific area by chemical and biological indicators; A. L. Tester is director. Fishery Radiobiological Investigations, Beaufort, N. C., is conducting research on fish and shellfish nutrition, using radio-active isotopes, also uptake of atomic fission products by marine organisms; Dr. Walter A. Chipman in charge. Gulf Fishery Investigations, Galveston, Texas, Albert W. Collier, Jr., in charge, is engaged in research on organic and inorganic chemistry of sea water, microbiology of plankton organisms, histology, histochemistry, and nutrition of shrimp. Willard Laboratory, Star Route, Cook, Wash., John E. Halver, in charge; salmon nutrition laboratory, comparative biochemistry, metabolism, comparative histology, pathology.

Fishery Technological Studies, under the Branch of Commercial Fisheries, Fish & Wildlife Service, comprise laboratories at four locations; we identify them as follows: Fishery Technological Laboratory, 61 Sumner St. East, Boston 28, Mass., Samuel R. Pottinger, supervisory chemist, in charge. At 2725 Montlake Blvd., Seattle 2, Wash., M. E. Stansby, supervisory chemist in charge; at College Park, Md., Hugo W. Nilson, supervisory chemist in charge. And the fourth of this group is the Fishery Products Technological Laboratory, 522 Mission St., Ketchikan, Alaska, Clarence J. Carlson, fishery products technologist in charge.

At the Seattle address shown in the preceding paragraph, is another research unit, the Pacific Salmon Investigations Laboratory, Clinton E. Atkinson in charge. In the course of general biological investigations, work is being done on serology of salmon blood. And lastly, not having to do with fisheries at all, but still under the Fish & Wildlife Service, Laurel, Maryland, is the location of the Patuxent Wildlife Research Refuge (Laboratory), Arnold L. Nelson in charge. It is engaged in research on repellents, game bird nutrition, herbicides, as a tool in marsh management and control of noxious plants; also insecticides and their effect on wildlife, agricultural wildlife, and wildlife diseases.

EUREAU OF MINES, Department of the Interior. Thomas H. Miller, acting director; Charles H. Johnson, executive assistant, regional activities; William E. Rice, chief, division of administration. The Bureau of Mines is composed of a headquarters organization in Washington, D. C., and five regional offices that supervise field work on minerals and fuels performed in experiment stations, offices and other establishments.

Operating independently of the regional organization is the Helium Activity, with headquarters at Amarillo, Texas. The Activity is headed by Clifford W. Seibel, assistant director-helium; and the chief of helium operations is Paul V. Mullins. William M. Deaton is chief, division of research. Helium production is from plants at Otis, Kansas; Shiprock, N. Mex.; and Amarillo and Exell, Texas. A project for expanding the plant at Exell is in the stage of awarding contracts at this writing.

Minerals technology, petroleum technology, and solid fuels technology are prominent from several aspects in the various regional operating offices. The petroleum experiment station is at Bartlesville, Okla., where Harold M. Smith is regional director. H. C. Fowler is chief, division of petroleum technology, and superintendent of the petroleum experiment station. The Division of Mineral Technology is represented in all five of the regional offices. There is a considerable staff in mineral technology in the station at Albany, Oregon; the electrometallurgical experiment station is at Boulder City, Nevada, Delwin D. Blue, superintendent; the rare and precious metals experiment station is at Reno, Nevada, Thomas R. Graham, superintendent; the Intermountain Experiment Station is at Salt Lake City, Utah, J. Bruce Clemmer, superintendent and chief of the division; the Mississippi Valley Experiment Station is at Rolla, Mo., Ray G. Knickebocker, superintendent and chief of the division. At College Park, Maryland, is the Eastern Experiment Station of the Division of Mineral Technology, Paul M. Ambrose, superintendent. The Electrotechnical Experiment Station i

it Norris, Tenn., and the Southern Experiment Station is at Tuscaloosa, Ala.

NATIONAL BUREAU OF STANDARDS, Department of Commerce. A. V. Astin, director; Wallace R. Brode, associate director, chemistry; Robert D. Huntoon, associate director, physics; William R. Tilley, chief, Office of Technical Information. The primary function of the Bureau is the custody, maintenance and development of national standards of measurement for physical quantities, covering the full range of scientific and technological fields. Research and development in the physical sciences comprises the greater part of the Bureau's scientific and technical program.

That program is conducted by a number of Divisions, of which we mention only three; and the first is the Chemistry Division, Edward Wickers, chief, and James I. Hoffman, assistant chief. The other two divisions are the Organic & Fibrous Materials Division, Gordon M. Kline, chief; and the Metallurgy Division, John G. Thompson, chief.

The Bureau has a number of field stations, relatively minor; but its principal field station is the Boulder Laboratories, Boulder, Colo. The staff here includes: Frederick W. Brown, director; Samuel W. J. Welch, executive officer; Charles L. Bragaw, information officer. The Cryogenic Engineering Division is one unit at this location; Russell B. Scott is chief, and Bascom W. Birmingham is assistant chief. Cryogenic processes are studied from the position of the mechanical engineer, the chemical engineer, and the physicist.

However, the principal facilities and programs of the Boulder Laboratories are those of the Radio Propagation Physics Division, Ralph J. Slutz, chief; and the Radio Propagation Engineering Division, Kenneth O. Norton, chief. Together these comprise a very comprehensive and noteworthy current scientific enterprise. The investigations include, to state it only partially, upper atmosphere research, ionospheric research, tropospheric propagation research, frequency utilization research, high frequency standards, microwave standards, microwave frequency, and spectroscopy.

One more item of information must be mentioned in connection with the National Bureau of Standards. A project of magnificent dimensions is well under way to move the Bureau's facilities now in Washington, to a new location in a suburban area. The site, it is understood, is a tract of some 550 acres near Gaithersburg, Maryland, and the migratory program will be spread over a period of about five years.

BUREAU OF CUSTOMS, Treasury Department. Ralph Kelly, commissioner of customs; David B. Strubinger, assistant commissioner. The Bureau has headquarters offices in the Internal Revenue Bldg., 12th St. & Constitution Ave., N.W., Washington 25, D.C. It co-operates with other government agencies in enforcing the preventive, sanitary and other laws relating to articles brought into the United States. In connection with the export control program, the Bureau of Customs has the duty of inspection to insure compliance with the licensing provisions of the various agencies of the government. These agencies include the State Department, the Bureau of Foreign Commerce, the Bureau of Narcotics, and the Atomic Energy Commission.

When deemed necessary, an actual examination of export articles is made by customs officers to insure compliance with export control requirements. The Bureau also co-operates with the Department of Agriculture and other agencies in the restrictions on the importation of certain articles.

The duties of inspection and examination of export articles are in part the responsibility of the Division of Technical Services, Bureau of Customs. John F. Williams, chemist, is chief of the Division; Albert F. Parks, chemist, is assistant chief of the Division. There are customs districts designated by number up to No. 51, with offices at locations within the United States and in Puerto Rico and the Virgin Islands. At nine of these there are customs laboratories, namely: New York, N.Y.; Philadelphia, Pa.; Chicago, Ill.; New Orleans, La.; Baltimore, Md.; Boston, Mass.; Savannah, Ga.; Los Angeles and San Francisco, Calif. We give, for example, the address and personnel of the first three: Customs Laboratory, Bureau of Customs, 201 Varick St., New York, N.Y., Edward F. Kenney, chief chemist. Customs Laboratory, U.S. Customhouse, Second & Chestnut Sts., Philadelphia 6, Pa., William C. Beard, chief chemist. Customs Service Laboratory, 610 S. Canal St., Chicago, Ill., Twitty Whaley, chief chemist.

DEPARTMENT OF THE ARMY, The Pentagon, Washington 25, D.C. Wilbur M. Brucker, Secretary of the Army; Major General Guy S. Meloy, Jr., chief of public information. The Chief of Research and Development, Army General Staff, is responsible to the Chief of Staff for planning, co-ordinating, directing and supervising all Army research and development activities. In the fulfillment of these responsibilities, the Chief of Research and Development, Lt. Gen. James M. Gavin, deals directly with the technical staffs and services.

The technical staffs and services includes officers whose responsibilities are of particular interest in this summary. They are, for example: Chief Chemical Officer, Maj. Gen. William M. Creasy; Quartermaster General, Maj. Gen. Kester L. Hastings; Chief Signal Officer, Maj. Gen. James D. O'Connell; Surgeon General, Maj. Gen. Silas E. Hays.

The Chief Chemical Officer studies and investigates toxicological warfare, including chemical, biological, and radiological warfare, and provides material and services pertaining to these types of warfare. Field activities within the Chemical Corps and under the Chief Chemical Officer include the Army Chemical Center, Army Chemical Center, Md., Brig. Gen. John R. Burns, Commanding General; also, at Camp Detrick, Frederick, Md., Col. John J. Hayes, assistant chief chemical officer for bacteriological warfare.

The Quartermaster General provides food, clothing, equipment, supplies and services therewith for the Army; also provides such articles and services for the Navy and the Air Force, as directed. Col. William D. Jackson is chief, research and development division, Quartermaster Corps. Field activities within the Quartermaster Corps include the Quartermaster Research & Development Command, Natick, Mass., Brig. Gen. Charles G. Calloway, Commanding General. Related to this is the Quartermaster Food & Container Institute for the Armed Forces, Research & Development Division, Office of the Quartermaster General, Chicago, Ill., Col. William K. Alston, Commanding Officer. The two units just mentioned are each the subject of a separate reference herein at Natick, Mass., and Chicago, Ill., respectively. And related to both of the foregoing is field activity at Fort Lee, Va., of the Fort Lee Quartermaster Training Command, Maj. Gen. Frank C. Holbrook, Commanding General.

Field activities within the Signal Corps include the Signal Corps Engineering Laboratories, Signal Corps Center, Fort Monmouth, Red Bank, N.J., Brig. Gen. Francis F. Uhrhane, Commanding General. These laboratories, title as mentioned, are housed in a huge building still one-third uncompleted, which will eventually make a scientific establishment of the first magnitude. The scientific field of the laboratories is mostly electronic, speaking in general, but there is an important chemical physics branch where studies are in progress in solid state chemistry, also electronic parts and materials involve extensive chemical studies, as is the case with photographic techniques.

Within the Army Medical Service, under the Surgeon General's Office, is a Research & Development Division, Col. Richard P. Mason, M.C., chief; and the Technical Director of Research is Stanhope Bayne Jones. Field activities of the Army Medical Service include important research centers at many of the army hospitals. To name only one, Walter Reed Army Hospital, world famous, is primarily a research institution, Walter Reed Army Medical Center, Washington, D.C., Maj. Gen. Leonard D. Heaton, M.C., Commanding General.

Other research establishments included in the field activities of the Army Medical Service are: Armed Forces Institute of Pathology, Washington, D.C., Brig. Gen. Albert DeCoursey, M.C., Commanding Officer; Medical Nutrition Laboratory, Denver, Colo., Lt. Col. Carl J. Koehn, M.S.C., Commanding Officer; Army Environmental Health Laboratory, Army Chemical Center, Army Chemical Center, Md., Co. Joseph H. McNinch, M.C., Chief; Army Medical Research Laboratory, Fort Knox, Ky., Lt. Col. William W. Cox, M.C., Commanding Officer.

DEPARTMENT OF THE NAVY, The Pentagon, Washington 25, D.C. Charles S. Thomas, Secretary of the Navy; Rear Adm. Edmund B. Taylor, USN., Chief, Office of Information, Executive Office of the Secretary. Certain Bureaus of the Navy have responsibility for research within the range of the duties assigned to their respective organizations. For example, the Bureau of Supplies and Accounts, Rear Adm. R. J. Arnold (SC), USN., Chief, exercises management control over the Naval Supply Research & Development Facility, Bayonne, N.J., other naval supply centers and naval supply depots. This Naval Supply Research & Development Facility operates under the

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Research & Development Division, Bureau of Supplies & Accounts, Comdr. Herman Strock, USN., director. In this Division, Thomas J. Seery is head of the clothing research branch, John A. Clague is head of the food research branch, and George W. Wassmer is head of the supply engineering branch. A part of the Facility is the Commissary Research Division, Arthur C. Avery, technical director, which has the responsibility for all research within the Navy on food, food preparation and food equipment. Its problems come from any bureau or operating command of the Navy. The staff personnel includes dieticians, institutional food specialists, food technologists, chemists, bacteriologists, and others. Various sections include laboratories on food preservation, food analysis, equipment, food acceptance, instrumentation, etc.

Other Bureaus, such as the Bureau of Ordnance, the Bureau of Ships, and the Bureau of Aeronautics, have research and development divisions whose activities are beyond the scope of this summary. The Bureau of Medicine & Surgery, whose Chief is Rear Adm. B. W. Hogan, (MC), USN., has a Research Division, Capt. Oscar D. Yarbrough, USN., Director; also a Preventive Medicine Division, Capt. James J. Sapero, USN., Director, which has a Communicable Disease Branch, an Environmental Sanitation Branch and an Industrial Health Branch.

Special field activities of the Navy include the Naval Research Laboratory, Anacostia, D. C., Capt. Samuel M. Tucker, USN., Director, and the National Naval Medical Center, Bethesda, Md., Rear Adm. Leslie O. Stone, USN., Commanding Officer.

DEPARTMENT OF THE AIR FORCE, The Pentagon, Washington 25, D. C. Donald A. Quarles, Secretary of the Air Force; Brig. Gen. Robert L. Scott, Jr., Director, Office of Information Services. Among the responsibilities of the Assistant Secretary of the Air Force are direction, guidance and supervision over matters pertaining to plans, policies and programs relative to basic and applied research. The official is currently Richard E. Horner, Acting Assistant Secretary; and William Weitzen is Deputy for Research & Development Operations.

The units assuming related duties in the Air Staff, Gen. Nathan F. Twining, Chief of Staff, are those of the Deputy Chief of Staff, Development, Lt. Gen. Donald L. Putt, under whom, for example is Maj. Gen. Ralph P. Swoford, Jr., Director of Research & Development.

Among the major commands of the Air Force are two whose activities embrace so to speak, almost everything that could be expected in the scientific research of our time. They are: Air Materiel Command, Wright-Patterson Air Force Base, Dayton, Ohio, Gen. Edwin W. Rawlings, Commander; and Air Research & Development Command, Baltimore 3, Md., Lt. Gen. Thomas S. Power, Commander.

VETERANS' ADMINISTRATION, Vermont Ave. between H and I Sts., N.W., Washington 25, D. C. H. V. Higley, administrator of veterans' affairs; J. Norman Lodge, director, Information Service. Within the Veterans' Administration, the Department of Medicine and Surgery has the responsibility of providing complete medical and hospital service for the medical care and treatment of veterans. William S. Middleton, M.D., is chief medical director, Dept. of Medicine & Surgery; R. A. Walford, M.D., is deputy chief medical director.

(Continued from page 12)

NATIONAL ASSOCIATION OF FROZEN FOOD PACKERS, 1415 K St., N.W., Washington 5, D. C. Lawrence S. Martin, secretary-manager. Herman P. Schmitt, director, research dept. The Association maintains research laboratories serving the industry, at this location. The Association also sponsors certain research projects in co-operation with universities or commercial laboratories.

NATIONAL CANNERS ASSOCIATION, 1133 20th St. N.W., Washington 6, D. C. Carlos Campbell, executive secretary. Nelson H. Budd, asst. secretary and director, Information Division.

This is the national organization of the American canning industry; the canneries operated by its members produce annually from 75 to 85 per cent of the total canned foods production of the United States. The professional and practical services of the Association are varied, and reflect the many facets of canned food production. As one aspect of its work, the Association

An important unit in the staff is the Office of the Assistant Chief Medical Director for Research and Education, headed by John B. Barnwell, M.D., assistant chief, and including Martin Cummings, M.D., director, research service. This office develops and administers a co-ordinated research program; likewise a program of graduate and postgraduate education and in-service training; also advises and assists in the technical and professional aspects of these activities.

Research is prominent, therefore, in the field station activities of the Veterans' Administration, which include centers, domiciliaries and hospitals. One outstanding institution is the Chicago Research Hospital, 333 E. Huron St., Chicago 11, Ill., Michael L. Matte, M.D., manager; Ray G. Bumgarner, assistant manager.

TENNESSEE VALLEY AUTHORITY, New Sprinkle Bldg., Knoxville, Tenn; also Woodward Bldg., 15th & H Sts., N.W., Washington 25, D.C. The general manager is Aubrey J. Wagner, and the director of information is Paul L. Evans, both at the Knoxville, address. One of many divisions and branches within the Authority is the Office of Chemical Engineering, Charles H. Young, manager, Wilson Dam, Ala. This divides into the Division of Chemical Development, John H. Walhall, director; and the Division of Chemical Operations, Stewart A. Harvey, director, both at Wilson Dam. The former has the research organization as follows: Research Branch, Kelly L. Elmore, chief; L. Howard Hull, assistant to the chief; Development Branch, Travis P. Hignett, chief; Marcus M. Striplin, Jr., assistant chief.

As may be inferred from the above, the Office of Chemical Engineering is the Authority's agency which operates chemical plants for the production of fertilizer, also of munitions materials. That Office formulates, recommends and executes plans policies and programs of research in chemistry, chemical engineering and metallurgy "to improve the use of natural resources and for national defense."

Fertilizers produced by the Tennessee Valley Authority are distributed only for use in research and educational programs. Small amounts are used in experimental projects by the Authority itself, the state agricultural experiment stations, the U. S. Dept. of Agriculture, and by industry groups. Fertilizers are sold to meet nominal requirements of other federal agencies.

CANAL ZONE GOVERNMENT, 101 Indiana Ave., N.W., Washington 25, D.C., Merrill Whitman, assistant to the governor. Also headquarters and operating services are maintained on the Isthmus, address Canal Zone; Brig. Gen. W. E. Potter is governor; Herman W. Schull is lieutenant governor. The services include hospital, health and sanitation services, all of which are under the administration of the Health Bureau, Brig. Gen. Don Longfellow, health director; Lt. Col. David C. Burke is assistant to the health director.

Other heads of local government activities and institutions are: Chief, division of sanitation, John P. Smith, Jr.; chief, division of quarantine & preventive medicine, Walter G. Nelson, M.D. Col. Francis E. Council is chief, Board of Health Laboratory. There are three hospitals, each headed by a superintendent; and Ezra Hurwitz, M.D., is chief of the Palo Seco Leprosarium.

maintains scientific laboratories which supply research and service on the principles of canning, on quality control measures, on spoilage prevention, sanitation techniques, and various phases of good canning procedure. These laboratories occupy at the headquarters location a million-dollar building erected recently at the address shown above. Associate director of the laboratories: C. A. Greenleaf. Exercising similar functions are two branch laboratories of the National Canners Association, located respectively at Seattle, Wash., and at Berkeley, Calif. For further information please see these references.

FLORIDA

CLEWISTON

UNITED STATES SUGAR CORPORATION, Clewiston, Fla.

Dr. B. A. Bourne, vice president, research. Laboratory related to agricultural and chemical studies of soils and crop varieties in connection with sugar and beef cattle production; utilization of cane pith and molasses by-products as cattle feeds after fortifying with essential supplements.

ASCO PACKING COMPANY,
Dade City, Florida.

W. G. Mitchell, quality control director.
Products development, research and quality control laboratories related to citrus products. Includes bacteriological, chemical, engineering. There are five laboratories on the site.

DADE CITY

SOUTHERN ANALYTICAL LABORATORY,
128 Talleyrand Ave., Jacksonville 1, Fla.
Allen J. Weaver, director & owner.
Industrial chemists; includes consulting, analysis of industrial materials, research, control of mfg.

JACKSONVILLE

FLORIDA CITRUS CANNERS CO-OPERATIVE,
P. O. Box 112, Lake Wales, Fla.
Marvin Walker, general manager.
R. W. Kilburn, director, research & development.

H. D. Todd, chief, quality control.

The research & development department is responsible for the development of new products, and for the control of quality on products. The work ranges from routine control tests in chemistry and bacteriology to research & development regarding new products, new uses and new markets. Facilities at this location include one research laboratory, one quality control laboratory, one bacteriological laboratory on control of mfg., and three government inspection laboratories on control of mfg.

LAKE WALES

FOOD MACHINERY & CHEMICAL CORPORATION,
Lakeland, Fla.
Dr. R. D. Gerwe, director of research.
Research and development laboratory at this location related to mfg. citrus packing house equipment. Main office of the company, San Jose, Calif., to which please refer.

LAKELAND

- At right. →

This is the principal building of the Minute Maid Corporation's Research center, at Plymouth, Fla. The laboratory is dedicated to the memory of a brilliant scientist-engineer who directed the first research projects for Minute Maid. It is located on the grounds of the corporation's concentrating plant. Investigations principally are soils & horticulture, food technology, chemistry.



BISCAYNE CHEMICAL LABORATORIES, INC.,
200 N.E. 11th St., Miami 32, Fla.
Edward W. Gorham, Treas.
Robert Low, Chief Chemist.

Product development and research laboratory related to mfg. laboratory reagents and industrial chemical compounding. Also consultation on product development.

HART DRUG CORPORATION,
25 N.E. 25th St., Miami 30, Fla.
C. L. Nelson, president.

Pharmaceutical manufacturers. Product development & quality control laboratories related to pharmaceuticals, liquids, tablets, ointments, Hart brand. Includes chemistry and pharmacy.

MOUNT DORA
W. DONALD CONKLING AGRICULTURAL LABORATORY,
Fifth Ave., Mount Dora, Fla.

W. Donald Conkling, director.
Includes analysis of soils and plant tissues with relation to fertilization and disease control.

INTERNATIONAL MINERALS & CHEMICAL CORPORATION, Research Experiment Station,
P. O. Box 2537, Mulberry, Fla.

Dr. I. M. LeBaron, director of research.
Dr. Roger Bart, manager, experiment station.

The Research Experiment Station is operated by the corporation's Research Division; it includes chemical process development facilities. W. B. Williams is supervisor of chemical process development. Main offices of the corporation are 20 N. Wacker Drive, Chicago 6, Ill.; Dr. Paul D. V. Manning, vice president in charge of research.

OCALA

LIBBY, MCNEILL & LIBBY, Citrus Division,
Ocala, Fla.

H. W. Trumm, acting manager.

This is one of seven locations in which general laboratories are maintained for respective divisions of the company. Main offices of the company, Chicago, Ill., to which please refer.

ORLANDO

LOUIS C. HERRING & CO.,
1219 Kuhl Ave., Orlando, Fla.

Louis C. Herring, director.

Consulting clinical, bacteriological and serological laboratory. Includes also water analysis, control on local citrus processing, and mfg. reagents.

PLYMOUTH

MINUTE MAID CORPORATION, Norman V. Hayes Memorial Laboratory,
Plymouth, Fla.

Dr. Wallace R. Roy, vice pres. in charge of research.

Product development and research laboratories related to Minute Maid frozen concentrated juices. Includes chemistry, biology, food technology, horticulture. On the staff: Dr. J. A. Brent, chief, chemistry section; Dr. C. W. DuBois, chief, food technology section; Dr.

A. E. Willson, chief, soils and horticultural section. Quality control laboratories, under the production department are in all plants. Main offices of the corporation are at 488 Madison Ave., New York 17, N. Y.

ST. PETERSBURG

HURST LABORATORIES,
514 37th St. North, St. Petersburg 2, Fla.
Thomas F. Hurst, Ph.D., director of research.
Laboratory related to tropical plant investigation. Includes consultation, research, control of mfg.

SARASOTA

THE KAHLENBERG LABORATORIES,

P. O. Box 1660, Sarasota, Fla.

Dr. Herman H. Kahlenberg, director.

Dr. Eilhard Kahlenberg, chief chemist.

Related to mfg. surgical sutures, pharmaceuticals, organic chemicals. Includes research, control of mfg.

STILLCO LABORATORIES,

1677 Tenth Way, Sarasota, Fla.

Eugene U. Still, president & director.

Includes research, analysis and control of mfg. on

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drug, food and allied products, botanicals, also organic synthesis. This is a unit of The Still Company, same address, of which also Dr. Still is president.

REA SERUM COMPANY,
Tallahassee, Fla.
Stanley Rea, president

Laboratory related to production of veterinary biologics, anti-hog-cholera serum, virus and vaccine. Vice president, O. T. Snow; E. H. Rea, secretary-treasurer.

THORNTON LABORATORIES, INC.
1145 E. Cass St., Tampa 1, Fla.
Robert P. Thornton, president.

Consulting laboratory, includes research, control of mfg.; chemical, biochemical, bacteriological.

GEORGIA

AMERICAN BAKERIES CO., Laboratory,
600 Murphy Ave. S.W., Atlanta, Ga.
J. A. Wayt, vice president.
S. A. McHugh, laboratory director.

Research and quality control laboratory related to food products. S. A. McHugh has offices also at 919 N. Michigan Ave., Chicago 11, Ill. E. C. Shover is asst. director. F. A. Mixon and J. A. Early, Jr., chemists. Main office of American Bakeries Co. in Atlanta is 520 Ten Pryor St. Building, Atlanta 1.

COMMUNICABLE DISEASE CENTER, U. S. Public Health Service,
50 Seventh St. N.E., Atlanta 23, Ga.
Theodore J. Bauer, M.D., medical director, chief.
Vernon B. Link, M.D., medical director, asst. chief, development and evaluation.
Alan W. Donaldson, scientist director, asst. chief, operations.
George H. Bradley, scientist director, asst. chief, Washington, D. C.

This is one of six divisions within the Bureau of State Services, Otis L. Anderson, M.D., assistant surgeon general, chief, Washington, D. C. The Bureau is an important operating agency of the Public Health Service, U. S. Department of Health, Education & Welfare. The Center's activities are principally directed toward helping the states to develop an effective program for the control of communicable diseases. Assistance to state and local health agencies is provided through laboratory and field investigations. The Center develops and demonstrates laboratory practices, evaluates laboratory performance, and maintains reference diagnostic services. Headquarters of the Center are at this location in Atlanta. There is an Epidemiology Branch, Dr. A. D. Langmuir, chief, which has laboratory field stations at Kansas City, Kans., and Greeley, Colo. The Center has a Technology Branch, Dr. S. W. Simmons, chief, which among other important activities, operates Technical Development Laboratories at Savannah, Ga., to which we make separate reference. The Center's third branch is the Laboratory Branch, Dr. Ralph B. Hogan, chief, which is composed of four laboratory sections, established at two locations, respectively Montgomery, Ala., and Chamblee, Ga. Please see our references as to these last two cities. See also our general reference to United States government departments, Washington, D. C.

NORRIS, INCORPORATED,
223 Peachtree St., N.E., Atlanta, Ga.

Product development and quality control laboratory at this location related to mfg. confections and candies. Charles M. Balkcom, chemist.

CHAMBLEE
LABORATORY BRANCH, COMMUNICABLE DISEASE CENTER, U. S. Public Health Service,
Chamblee, Ga.

Three laboratory sections of the Center's Laboratory Branch are at this location. We enumerate them as follows: Bacteriology section, Dr. Donald S. Martin, chief; Hematology and Biochemistry section, Dr. Gerald R. Cooper, chief; Parasitology and Mycology section, Dr. Marion M. Brooke, chief. Please see also our reference to Communicable Disease Center, U. S. Public Health Service, Atlanta, Ga.

TALLAHASSEE

GAINESVILLE
AMERICAN LABORATORIES, INC.,
608 S. Grove St., Gainesville, Ga.
F. E. Woodruff, president.

Product development, research and control laboratory related to mfg. veterinary biologicals, "Ali" brand. Includes bacteriology, virology, chemistry.

SAVANNAH

HERTY FOUNDATION, Laboratory,
P. O. Box 1963, Savannah, Ga.
Reavis C. Sproull, director.
W. L. Belvin, asst. to the director.

The Herty Foundation is a trusteeship of the state of Georgia. It maintains a laboratory for applied research and development studies on wood, agricultural fibers, industrial and agricultural wastes, pulp, paper and other wood derivatives. A pulp and paper pilot plant is operated semi-commercially on a per diem basis. Pilot plant superintendent, Ralph B. Parker.

TAMPA

TECHNICAL DEVELOPMENT LABORATORIES, TECHNOLOGY BRANCH
Communicable Disease Center,
P. O. Box 769, Savannah, Ga.

K. D. Quarterman, chief.
The Communicable Disease Center, U. S. Public Health Service, has a Technology Branch which is set up in several laboratory sections in a number of cities. One of these, the Technical Development Laboratories, at this location in Savannah, Ga., operates in four sections which we enumerate as follows: Biology section, Dr. Herbert F. Schoof, chief; Chemistry section, Dr. George Pearce, chief; Equipment Development section, Larry Hall, chief; Toxicology section, Dr. Wayland J. Hayes, Jr., chief. Still another of these sections is located at Wenatchee, Wash., Dr. William M. Upholt, chief. Please see also our reference to Communicable Disease Center, U. S. Public Health Service, Atlanta, Ga.

HAWAIIAN ISLANDS

HONOLULU
HAWAIIAN PINEAPPLE COMPANY, LIMITED,
P. O. Drawer 3380, Honolulu, T. H.
Dr. George Felton, technical director.
Dr. Charles E. Mumaw, director of quality control.
Dr. Ralph M. Heinicke, director, chemical and food research.

Laboratories engaged in processing research, the development of new products, and control measures related to the canning of pineapples. Agricultural research is carried out on the two plantations of the company, one located at Wahiawa, Oahu, where research studies are supervised by K. F. Manke; and the second located at Lanai City, Lanai, where the studies are under the direction of John Hurdis.

HAWAIIAN SUGAR PLANTERS' ASSOCIATION, Experiment Station,

1527 Keeaumoku St., Honolulu 14, T. H.
Dr. L. D. Bauer, director.

Research laboratories in the raw sugar industry are operated at this location. The investigations include agricultural engineering, plant physiology, agronomy, pathology, chemistry, geology, etc.

HAWAIIAN TUNA PACKERS, LIMITED,
P. O. Box 238, Kewalo Basin, Honolulu 9, T. H.
Malcolm MacNaughton, president.

Product development, research and quality control laboratory related to canned tuna, fish meal, ice, Royal Hawaiian brand tuna. Fred Jermann, food technologist.

LIBBY, MCNEILL & LIBBY, Pineapple Division,
P. O. Box 1140, Honolulu 7, T. H.
D. McCloskey, manager, quality control & research.

Laboratory at this location on products as indicated. Main office of the company, Chicago, Ill., to which please refer.

PINEAPPLE RESEARCH INSTITUTE OF HAWAII,
P. O. Box 3166, Honolulu 2, T. H.
R. L. Cushing, director.
H. K. Smoot, business manager.

The Institute conducts fundamental and applied re-

- At right.

Food and container research center of American Can Co., at Barrington, Ill., a suburb of Chicago. The new structures shown in the illustration include laboratories of the Research Division, also the Development Division. Headquarters of the Research and Technical Department, also main office of the company are at New York City. Other laboratories in the Chicago area are those of the Technical Service Division, also the Agronomy Division at Maywood, Ill. All of the new construction supplements rather than replaces previously existing facilities.



search on problems of pineapple production, in the fields of plant pathology, plant physiology, plant breeding, plant chemistry, entomology, soils and agricultural engineering. The Hawaiian pineapple industry also works through its trade association, the Pineapple Growers' Association, Matson Bldg., 215 Market St., San Francisco 5, Calif.

MAUI PINEAPPLE COMPANY, LIMITED,

Kahului, Maui, T. H.

E. S. Sheffield, Jr., plant manager.

Laboratory at this location related to pineapple production; includes research and quality control. Robert J. Woods, chief chemist. Main office of the company is in Paia, Maui, T. H.

KAHULUI

ILLINOIS

ARGO

CORN PRODUCTS REFINING CO., Chemical Division,

Argo, Ill.

Dr. Albert L. Elder, director of research.

The company's George M. Moffett Research Laboratories occupy extensive facilities at this location. Related to mfg. food products, organic chemicals. General offices of the company, 201 N. Wells St., Chicago 6, Ill., and 17 Battery Place, New York 4, N. Y.

BARRINGTON

AMERICAN CAN COMPANY, Research Center,

P. O. Box 203, Barrington, Ill.

Dr. R. W. Pilcher, director of Research Division.

H. R. Vitense, manager, Development Division.

Facilities at this location in an extensive layout were occupied new in early summer, 1955. The site has an area of 40 acres, and the buildings, accommodating 50 laboratories, were erected at a cost of some two million dollars. The expansion program included removal to this location of some of the laboratories previously housed at the former research center in Maywood, Ill. Both the Research Division and the Development Division are located at this Research Center. For a statement of the entire research program, also for additional executive personnel, please see our reference to the company's main office, 100 Park Ave., New York 17, N. Y.

THE QUAKER OATS COMPANY, Research Laboratories,

Barrington, Ill.

F. N. Peters, Ph.D., vice pres. in charge of research.

W. R. Graham, Ph.D., director of research.

Conduct research on development and improvement of cereals, flours, feeds, pet foods and chemicals; also research on nutrition, chemical and biochemical problems connected with cereals, chemicals and chemical by-products and feeds. The direction of all research throughout the company is centralized in this laboratory. Also

- At right

Quaker Oats Company's research laboratories, Barrington, Ill., occupied new with dedication ceremonies in October, 1956. Research is conducted here on the four basic types of the company's products: Research in human nutrition; research in livestock & poultry nutrition, research in pet nutrition, and research in the furan chemicals. Quaker Oats expends about a million dollars a year on research.



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the company maintains research farms at Barrington, Ill., and Libertyville, Ill., and research kennels at Rockford, Ill. General offices of the company are Merchandise Mart, Chicago 54, Ill.

BLOOMINGTON

AL-CHEM LABORATORY, INC.

702 E. Locust St., Bloomington, Ill.
Justin J. Alikonis, director.

Consulting services; includes water and sewage, food products, cultures; research, control of mfg.

BLUE ISLAND

LIBBY, McNEILL & LIBBY, Eastern Division, 13636 S. Western Ave., Blue Island, Ill.

Dr. George W. Beach, manager, quality control & research.

General laboratory at this location, on food products. Main office of the company, Union Stock Yards, Chicago 9, Ill., to which please refer.

CHICAGO

ALLIED MILLS, INC.

141 W. Jackson Blvd., Chicago 4, Ill.

Laboratories of the Research Division are located at Libertyville, Ill.; please see this reference.

AMERICAN DRY MILK INSTITUTE, INC.

221 N. LaSalle St., Chicago 1, Ill.
Dr. B. W. Fairbanks, director.

The Institute maintains at this location an industry-supported research and analytical laboratory on dry products of milk. Includes chemical, bacteriological, vitamin assay; bakery and meat products divisions. Head of laboratory research, R. J. Remaley, in charge, scientific development. Chief chemist, R. P. Choi.

AMERICAN INSTITUTE OF BAKING,

400 East Ontario St., Chicago 11, Ill.

Welker G. Bechtel, Director of Laboratories.

This is a not-for-profit scientific and educational center of the baking industry. Research and quality control laboratories include chemistry and bacteriology.

AMERICAN MEAT INSTITUTE FOUNDATION, Laboratories,

939 East 57th St., Chicago 37, Ill.

Director of research & education: The office is vacant at this writing.

Assistant directors of research & education, Delbert M. Doty, Ph.D.; Charles F. Niven, Jr., Ph.D.; Bernard S. Schweigert, Ph.D.

The Foundation is a non-profit scientific research organization affiliated with and located on the campus of The University of Chicago. Attention is devoted exclusively to research and education in fields related to livestock production and processing, and the utilization of products derived from livestock. The Foundation occupies its own laboratory building. The staff includes 50 scientists and technicians. Established research divisions include: Analytical and physical chemistry, D. M. Doty, Ph.D., chief; bacteriology, C. F. Niven, Jr., Ph.D., chief; biochemistry and nutrition, B. S. Schweigert, Ph.D., chief; histology, Hai Wang, Ph.D., chief; organic chemistry, L. R. Dugan, Ph.D., chief. Other departments include: Analytical laboratory, J. E. Maroney, S.M., chief; research project on animal feeds, O. H. M. Wilder, Ph.D., biochemist in charge; research project on hides and skins, F. L. DeBeukelaer, Ph.D., chemist in charge; Foundation Library, Barbara J. Payne, librarian; Division of Information & Service, H. A. Armstrong, chief.

AMERICAN RESEARCH & TESTING LABORATORIES,

32 N. State St., Chicago 2, Ill.
Paul W. Stokesberry, director.

Ann Goodsell, secretary.

Specializes in chemical and bacteriological testing of foods and pharmaceuticals; also includes work in other fields such as germicides, cosmetics, water, etc. Maintains complete animal colonies for use in biological assay of drug products and toxicity assay, also nutritional studies.

ARGONNE NATIONAL LABORATORY,

P. O. Box 5207, Chicago 80, Ill.

Reference to this important establishment of the Atomic Energy Commission is included in our general reference to U. S. government departments, Washington, D. C., to which please refer.

ARMOUR & COMPANY, Research Division, Union Stock Yards, Chicago 9, Ill.

V. Conquest, vice pres. & general manager.

Laboratory concerned with pharmaceuticals, biochemicals, animal proteins, fats and oils, meat products, dairy and poultry products, fatty acids and their derivatives, leather, fertilizers, soaps and detergents, etc. C. K. Wiesman, manager of research & development departments and manager of food research department; H. J. Harwood, manager of central research department; D. A. Drum, manager of services department; M. L. Laing, technical director, general packinghouse control laboratories. Please see also our reference to Armour & Company, Pharmaceutical Center, Kankakee, Ill.

ARMOUR RESEARCH FOUNDATION of Illinois Institute of Technology,

10 West 35th St., Chicago 16, Ill.

John T. Rettalata, president.

Haldon A. Leedy, vice president & director. E. H. Schulz, asst. director for research operations.

Stewart S. Howe, asst. director for public relations.

William M. Cousins, Jr., asst. director for business operations.

Herbert B. Gausebeck, manager for program development.

This is a not-for-profit corporation, now in its 20th year, performing independent research service on sponsored projects for industry and government agencies. The Foundation also supports promising fundamental research studies and a variety of public service activities, within its resources, by members of its staff. Its full-time staff numbers approximately 1,100.

The Foundation's physical plant includes 15 buildings located on the Technology Center campus of Illinois Institute of Technology in Chicago, a shock tube laboratory in Geneva, Ill., and various temporary installations in foreign nations. On April 1, 1956, it put into operation the first nuclear reactor built for industrial research use. Since its establishment in 1936, it has conducted more than seventy million dollars in research on more than 3,000 separate projects. It annually conducts more than 500 projects, and is currently one of the world's largest industrial research organizations.

The Foundation is made up of nine principal research departments: Ceramics and minerals; chemistry and chemical engineering; electrical engineering; heat and power; international projects; mechanism and dynamics; metals; physics; propulsion and structures. Among its special facilities are: Computer Center, National Registry of Rare Chemicals, National Registry of Crystallographic Data, Ohmite Laboratory of Precision Electrical Measurements, and the Riverbank Acoustical Laboratories.

Clark E. Thorp is manager of the Chemistry & Chemical Engineering research department; R. L. Bond and L. C. Kinney are assistant managers. The department includes the following sections, each with the supervisor as named: analytical, R. Carrigan; biochemistry, G. H. Benham; chemical engineering, F. Lerman; fine particles, M. A. Fisher; organic chemistry, H. M. Coleman; physical chemistry, J. E. Barkley; plastics, K. Beal; literature, N. Ungar.

BATES LABORATORIES, INC.

3542 N. Clark St., Chicago 13, Ill.

J. E. Udell, president-treasurer.

Related to mfg. pharmaceuticals, specializing in private formula.

BAUER & BLACK, Division of The Kendall Company,

2500 S. Dearborn St., Chicago 16, Ill.

P. F. Ziegler, director of research.

Factory and research facilities at this location; main office of the Division, 309 W. Jackson Blvd., Chicago 6, Ill. Laboratories at this address, previously related mainly to mfg. sutures, surgical dressing, etc., were notably expanded and enlarged in 1953. From that time the program has been based on research in the bio-sciences, including bacteriology, physical pathology, histology and biochemical research and development. Main office of The Kendall Company, 140 Federal St., Boston 10, Mass.; Warner Eustis, director of research.

BEATRICE FOODS CO.

1526 S. State St., Chicago 5, Ill.

G. W. Shadwick, director, quality control laboratories.

Laboratories at this location concerned with quality

- At right. →

Continental Can Company's new research and engineering center, in Chicago, Ill. It is a fireproof structure of reinforced concrete in the low, modern design. Except for the executive offices and main lobby, the air-conditioned building is without windows. However, the facade of the building is relieved by extruded aluminum crossgrids, & sculptures in cast aluminum and terra cotta.



control and production processes in mfg. food products. The company also maintains district laboratories at Champaign, Ill., Denver, Colo., Des Moines, Iowa, Pittsburgh, Pa., and New Bremen, Ohio; also branch laboratories in some 27 other cities. Main office, Beatrice Foods Co., 120 S. LaSalle St., Chicago 3, Ill., Gerald C. North, research director.

BIOCHEMICAL RESEARCH LABORATORIES, INC.,
1 East Walton Place, Chicago 11, Ill.
K. S. Still, Ph.D., sec. & treas., director
of the laboratory.

Research, consulting and control laboratory related to mfg. under this name, ethical vitamin and other products, including parenterals; also development and mfg. for private label, and standardization.

BJORKSTEN RESEARCH LABORATORIES, INC.,
1525 East 53rd St., Chicago 15, Ill.
Dr. Johan Bjorksten, president.

Research assignments for industrial clients. This is a branch laboratory; please see this company, P. O. Box 265, Madison, Wis.

CHICAGO BIOLOGICAL RESEARCH LABORATORY,
5606 S. Harper Ave., Chicago 37, Ill.
Y. Thomas Oester, Ph.D., M.D., partner.
Sydney Titelbaum, Ph.D., partner.

Testing and research, micro-pharmacological, biological, toxicological; consultation and development; medico-legal consultation.

CHICAGO DAIRY & FOOD LABORATORIES,
6930 N. Clark St., Chicago 26, Ill.
Consultation, research, control of mfg., in the fields indicated. Dr. V. C. Stebnitz, director.

COLBURN LABORATORIES, INC.,
732 S. Federal St., Chicago 5, Ill.
Dr. William Colburn, president.
Dr. Michael G. Berkman, chief chemist.

Consulting chemists; research, analysis, product development. Well-equipped, including infrared spectrometer, photomicrographic equipment. Fields covered include nutrition products, pharmaceuticals, biochemistry, organic chemicals, container materials.

CONTINENTAL CAN CO., INC., Central Research & Engineering Division,
1722 S. Racine Ave., Chicago 20, Ill.
Curtis E. Maier, division general manager.

This Division carries on research and engineering investigations of a more long range and fundamental nature on radically new materials, methods of manufacture, and use of its products; also provides consulting assistance to the Product Divisions, and surveys and appraises other fields of manufacture in which the company may become interested. Of the total of 100 employees, approximately 75 will be professional scientists and engineers of established reputation. Please see also our reference to this company's Metal Division Research & Development Department, likewise in Chicago, Ill.

CONTINENTAL CAN CO., INC., Metal Division Research & Development Department,

1350 West 76th St., Chicago 20, Ill.

L. Ylvisaker, division general manager.

The company has established at this address extensive facilities which centralize the Metal Division's research activities that were formerly located at 4645 W. Grand Ave., Chicago 39, and at 7622 S. Racine Ave. These facilities were occupied new on June 14, 1956, and they represent an investment of about \$7,250,000. The principal structure is a three-story building with about 260,000 square feet of floor space, on a site of about $7\frac{1}{2}$ acres. These laboratories will serve Continental's 41 Metal Division plants across the country and 20 field laboratories in the United States, Canada and Cuba. The department will be responsible for the improvement of present materials, methods and products, as well as for the development of new uses and new products in the class of materials normally used in the Metal Division's products. Approximately one-half of the 600 employees will be professional scientists and engineers. General offices of the company are 100 East 42nd St., New York 17, N. Y.; please see that reference for further explanation.

CONTINENTAL COFFEE COMPANY,

371 W. Ontario St., Chicago 90, Ill.

Product development and control laboratory related to coffee; includes food technology, chemistry. J. Bloom, chief chemist.

CORN PRODUCTS REFINING CO.,

201 N. Wells St., Chicago 6, Ill.

This is general offices of the company. The Chemical Division's George M. Moffatt Research Laboratories are at Argo, Ill., to which please refer.

DAD'S ROOT BEER CO.,

2800-34 N. Talman Ave., Chicago 18, Ill.

George Bernard, Ph.D., laboratory director.

Chemical and bacteriological laboratory at this address related to mfg. Dad's bottlers' concentrate and other fountain and soft drink specialties; includes product development, research and quality control. Also extends consulting services in water analyses, product control as to quality and uniformity, etc.

DAWE'S LABORATORIES, INC.,

4800 S. Richmond St., Chicago 32, Ill.

Charles C. Dawe, president.

Vernon Dawe, vice president.

Sam Tepper, vice president.

Research and development laboratory related to mfg. vitamin products. Irwin Olcott, chief chemist. J. C. Fritz, director of nutritional research.

DEARBORN CHEMICAL COMPANY

1029 West 35th St., Chicago 9, Ill.

J. F. Wilkes, director, research & development.

Product development, research and quality control laboratories of the company at this location. Related to mfg. water conditioning chemicals, corrosion inhibitors, biocides and rust preventives. Includes also analytical and technical service. Main office of the com-

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pany, 375 Merchandise Mart, Chicago 54, Ill. Other laboratories of the company are located at Lake Zurich, Ill., and Toronto, Ont. Others on the staff include W. L. Denman, Ph.D., directing chemist; G. Bednar, senior analytical leader; J. G. Surchek, senior research leader.

THE ALBERT DICKINSON CO.,
2750 West 35th St., Chicago, Ill.

Dr. A. A. Hendrickson, chief bacteriologist.

Related to seeds and popcorn. The laboratory manufactures bacterial cultures used to inoculate legume seeds. Conducts research on methods of manufacture, on new products and the isolation of new strains of bacteria. Includes bacteriological and chemical controls of processes and products.

DR. BERTRAM FEUER & ASSOCIATES,
664 N. Michigan Ave., Chicago 11, Ill.

Bertram Feuer, Ph.D., director.

Bacteriologists and chemists; includes research, consulting, development; foods and drugs.

THE FLEISCHMANN MALTING CO.,
2143 West 51st Place, Chicago 9, Ill.

Laboratory related to mfg. malt; Dr. W. J. Olson, director. Also operated under Dr. Olson's supervision is the company's laboratory of the same type at 1717 N.E. Second St., Minneapolis 13, Minn., to which please refer. Both are subsidiaries of Standard Brands, Inc., 595 Madison Ave., New York 22, N. Y.

FOOD TECHNOLOGY, INC.,
5903 Northwest Highway, Chicago 31, Ill.

Elmer F. Glabe, president.

Consultation, investigations; laboratory includes research on food products and processes. Henry L. Williams, vice pres.; T. J. O'Kane, secretary; Richard L. Johnston, patent attorney.

GENERAL BIOLOGICAL SUPPLY HOUSE, INC.,
8200 S. Hoyne Ave., Chicago 20, Ill.

C. Blair Courses, president.

In addition to supplying biological materials, undertakes certain research problems in biology.

THE GLIDDEN COMPANY, Central Organic Research Laboratory,
1825 N. Laramie Ave., Chicago 39, Ill.

Dr. J. Wayne Cole, director of research.

Dr. E. W. Meyer, asst. director of research.

These laboratories have become prominent in organic research related to the production of the company's Food Chemurgy, and the Protective Coatings divisions. Plant of the Chemurgy Division is also at this location, and the facilities include research and control laboratories of the division. Products of the latter division are soybean oil and meal, isolated edible and inedible proteins, soya phosphatides, lecithin and cephalin, industrial soya proteins, steroid fine chemicals; crude, refined, treated and modified soybean oils, and soya protein adhesives. Main office of the company is Cleveland, Ohio; please see that reference for further explanation of the divisions, also the executive personnel.

THE GLIDDEN COMPANY, Food Division (Durkee Famous Foods),
2670 Elston Ave., Chicago 47, Ill.

W. Marvin Cochran, head of the laboratory.

Major laboratories of the Division in plant at this location, also at 3702 Iron St., Chicago 2, Ill. Main office of the company, Cleveland, Ohio; please see that reference for statement of products of the division, also additional executive personnel.

THE GRIFFITH LABORATORIES, INC.,
1415 West 37th St., Chicago 9, Ill.

C. L. Griffith, president.

Dr. Lloyd A. Hall, technical director.

Manufacturers of food and pharmaceutical materials; meat packers' and bakers' supplies. Research, consulting and mfg. laboratory related to this production. Factory and laboratories also at Newark, N. J., and Toronto, Ont.

HALES & HUNTER CO., Laboratory,
140th St. & Stewart Ave., Chicago 27, Ill.

R. J. Karrasch, director of research.

B. H. Barrows, laboratory manager.

Includes research and control of mfg. on feeds, malt

and grain. Main office of the company is 141 W. Jackson Blvd., Chicago 4, Ill.

THE C. P. HALL CO. OF ILLINOIS

5145 West 67th St.,

Chicago 38, Ill.

J. E. Martin, plant superintendent.

Product development and quality control laboratory at this location related to mfg. fatty acid esters for food products, paper, etc.; ester plasticizers, polyesters. The parent company is The C. P. Hall Company, Akron, Ohio, to which please refer.

PETER HAND FOUNDATION, Division of Peter Hand Brewery Company,

1000 W. North Ave., Chicago 22, Ill.

H. S. Wilgus, director of research and nutrition.

Product development, research and quality control laboratory related to mfg. Peter Hand and custom pre-mixes of vitamins and antibiotics, DPPD, individual vitamin products. Richard Wakely, chief chemist. Peter Hand Brewery Co. is same address.

HILLE LABORATORIES,

3477 N. Clark St., Chicago 13, Ill.

Hermann Hille, Ph.D., president.

Research and manufacturing; specially related to colloidal pharmaceutical products (ethical).

INSTITUTE OF AMERICAN POULTRY INDUSTRIES,

231 N. LaSalle St., Chicago 1, Ill.

Cliff D. Carpenter, president.

Miss Margaret M. Lally, laboratory director.

The Institute maintains a laboratory at 110 N. Franklin St., Chicago 6, Ill., which engages in research on the production, sampling, testing and utilization of frozen eggs and egg solids. It performs chemical, bacteriological and physical examination of frozen and dehydrated egg products; also offers consulting services to industry.

INTERNATIONAL MINERALS & CHEMICAL CORPORATION,

20 N. Wacker Drive, Chicago 6, Ill.

Louis Ware, president.

Dr. Paul D. V. Manning, vice president in charge of research.

General and executive offices of the corporation are at this location. Research activities are under the cognizance of the Research Division which operates three laboratories to serve general interests of the operating divisions of the company. The laboratories are: General research laboratory, Skokie, Ill.; research experiment station, Mulberry, Fla.; field laboratory, Woodland, Calif. We show separate reference to all of these. The operating divisions are: Phosphate Chemicals Division, H. F. Roderick, vice pres.; Phosphate Minerals Division, G. W. Moye, vice pres.; Potash Division, Nelson White, vice pres.; Plant Food Division, M. H. Lockwood, vice pres.; Ac'cent International Division, G. B. Hamilton, vice pres. Pharmaceutical activities of the corporation are handled by the Pharmaceutical Department of Ac'cent International Division, with Dr. B. F. Buchanan, manager, located at 214 Front St., San Francisco, Calif.

THE JAMES LABORATORIES,

189 W. Madison St., Chicago 2, Ill.

L. H. James, director.

Industrial microbiology and sanitation. Includes sanitation and laboratory service; testing of disinfectants, sterility of biologics, examination of dairy products, restaurant and factory sanitation, micro-analysis of foods for contamination, food poisoning.

KITCHEN ART FOODS, INC.

2320 N. Damen Ave., Chicago 47, Ill.

Product development, research and quality control laboratory related to mfg. prepared bakery mixes; includes Py-O-My. Edward Feigon, chief chemist; also on the staff, William Masuoka.

KRAFT FOODS COMPANY,

500 Peshtigo Court, Chicago 90, Ill.

G. C. Pound, president.

Manufacturers, cheese, salad products, dairy specialties. This is main office of the company; research labo-

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ories are 923 Waukegan Road, Glenview, Ill., to which we refer. This company is a subsidiary of National Laboratory Products Corporation, 260 Madison Ave., New York 16, N.Y.; please see that reference also.

LORATORY OF VITAMIN TECHNOLOGY, INC.,
7737 South Chicago Ave., Chicago 19, Ill.

Lawrence Rosner, Ph.D., president.

Orton F. Hixson, technical director.

Consulting laboratory specializing in biochemical and biological testing and research. Fields covered: pharmaceuticals, foods, feeds, cosmetics, biochemistry, toxicology, pharmacology, nutrition, bacteriological, medical, hormones. See also Rosner-Hixson Laboratories same address.

BET, MCNEILL & LIBBY,
Union Stock Yards, Chicago 9, Ill.

John T. Knowles, vice president.

Manufacturers of food products. This is general office of the company, and Mr. Knowles is the executive in charge of the laboratories. General laboratories are maintained in each of the company's divisions. There are seven locations, to all of which we make separate reference, except one in Chicago which follows here: The laboratory of the Meat Division is at the Union Stock Yards address, as above; E. Visek is manager, quality control & research. Another in the Chicago area is that the Eastern-Pickle, Condiment & Vegetable Division, No Island, Ill., to which please refer. For other laboratories please see our references at the following locations: Sunnyvale, Calif.; Honolulu, Hawaiian Islands; Seattle, Wash.; Chatham, Ont., Canada; Ocala, Fla.

H. W. E. LONG CO.,
188 W. Randolph St., Chicago 1, Ill.

Rowland J. Clark, chief chemist.

Consulting, research and control laboratory related to bakery service; includes bacteriological, biochemical.

J. MAYER & SONS CO., INC.,
6811-27 S. Ashland Ave., Chicago 36, Ill.
Laboratory related to mfg. of food seasoning; specializing in natural spice blends, also blends of essential oils and extractives, and curing compounds for manufacture of food products. Includes research and production control, Erwin J. Bonnoff, technical director. The firm's executive representing the laboratory, Charles F. Mayer.

ORTON SALT COMPANY,
120 S. LaSalle St., Chicago 3, Ill.
Main research facilities, also pilot plant production units of this company are located at Woodstock, Ill. Please see our reference to that location.

NATIONAL ALUMINATE CORPORATION,
6216 West 66th Place, Chicago 38, Ill.

John W. Ryznar, technical director.

Laboratories in that part of the company's field which is concerned with the bio-sciences, carry on research and service work to produce: slime controlling chemicals for paper mills and cooling towers; moldproofing chemicals for paper; weed control chemicals. Supervisors on the laboratory staff at this location include: Earl E. Johnson, director of inorganic research; George Craickshank, group leader, microbiology laboratory; Alter E. Steinmetz, director of organic research; George Lurissi, group leader, weed control laboratory. There are laboratories of the company at other locations which are not concerned in the bio-sciences.

NATIONAL CAN CORPORATION,
1217 West 47th Place, Chicago 32, Ill.
Robert S. Solinsky, president.

Amire M. Toft, exec. vice president in charge of manufacturing & engineering.

This is executive offices of the corporation. There are two research laboratories, to both of which please refer, as follows: National Can Corporation, Maspeth Research Laboratory, Maspeth, N.Y.; National Can Corporation, Pacific Division Research Laboratory, San Francisco, Calif.

ORGANICS, INC.,
1724 W. Greenleaf Ave., Chicago 26, Ill.

Lawrence Hicks, president.

Laboratory related to mfg. hormones for the pharmaceutical and cosmetics industries.

PABST BREWING COMPANY

221 N. LaSalle St., Chicago 1, Ill.

This is headquarters office of the company. The Research Division maintains microbiological and chemical research laboratories at Milwaukee, Wis., to which please refer.

THE QUAKER OATS COMPANY,

Merchandise Mart, Chicago 5, Ill.

This is general offices of the company. Research laboratories are at Barrington, Ill., at which location the direction of all research throughout the company is centralized; please see that reference.

QUARTERMASTER FOOD & CONTAINER INSTITUTE FOR THE ARMED FORCES, Research and Development Division, Office of the Quartermaster General,

1819 W. Pershing Road, Chicago 9, Ill.

Commandant: Colonel John D. Peterman.

Scientific Director: Dr. Donald K. Tressler.

Concerned with improvement of rations through research applying the basic sciences, and through development of food items and containers to meet the special requirements of the Armed Forces. The Institute contains the Food Laboratories and the Container Laboratories. The Food Laboratories, Dr. Robert G. Fischer, director, is made up of four research branches (Acceptance, Nutrition, Biophysics and Stability), four development branches (Animal Products, Dairy Oils & Fats, General Food Products and Fruit & Vegetable Products) and an Applications Engineering Branch. The Container Laboratories, Albert V. Grundy, director, is made up of three research and development branches (Research, Methods Standards & Evaluation, and Packaging Development) and an Applications Engineering Branch. The Quartermaster Food & Container Institute here described is a unit of the Quartermaster Research & Development Command, and another unit is the Quartermaster Research & Development Center, Natick, Mass., to which please refer. Also there is the Quartermaster Research & Development Field Evaluation Agency, Fort Lee, Va.

ROSNER-HIXSON LABORATORIES,

7737 South Chicago Ave., Chicago 19, Ill.

Lawrence Rosner, Ph.D., president.

Orton F. Hixson, technical director.

Consulting laboratory specializing in biochemical and biological testing and research. Fields covered: Toxicology (including industrial toxicology), pharmacology, biochemistry, bacteriology, radioisotope applications. See also Laboratory of Vitamin Technology, Inc., same address.

SANITARY DISTRICT OF CHICAGO,

911 S. Michigan Ave., Chicago 5, Ill.

Dr. F. W. McMillan, director of laboratories.

The Sanitary District has responsibility for disposal of human and industrial wastes in the city of Chicago and 50 neighboring cities. Maintains laboratories at various locations on these problems.

THE SCIENTIFIC OIL COMPOUNDING CO.,

1637 S. Kilbourn Ave., Chicago 23, Ill.

Ralph Eisenachim, vice president.

Dr. Charles Yeager, technical director.

Product development, research and quality control laboratory related to mfg. fungicides (Cunilate, Cunimene, Cuniphen.) Includes microbiology.

G. D. SEARLE & CO.,

P. O. Box 5110, Chicago 80, Ill.

Albert L. Raymond, vice pres. in charge of

research & development.

Research, development and control laboratories related to mfg. pharmaceuticals. Dr. Victor A. Drill, director of biological research. Dr. Byron Riegel, director of chemical research. Dr. Irwin C. Winter, director of clinical research. The laboratories occupy several fully-equipped buildings in the company's modern plant located at Searle Parkway, Skokie, Ill.

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SEARS, ROEBUCK & CO., Merchandise Testing & Development Laboratories
925 S. Homan Ave., Chicago 7, Ill.
R. S. Burke, manager.

A department of the firm indicated, same address, related to evaluation and control of merchandise, including candies, vitamin and nutrition products, pharmaceuticals, veterinary drugs and livestock feed supplements.

J. E. SIEBEL SONS' COMPANY, INC.,
4055 W. Peterson Ave., Chicago 30, Ill.
Kurt Becker, vice pres. & director of laboratories.

Consulting chemists and industrial engineers. Analytical, research and consulting laboratories related to mfg. food products, carbonated and cereal beverages.

WILLIAM J. STANGE CO.,
342 N. Western Ave., Chicago 12, Ill.
B. L. Durling, vice president.

Product development, research and quality control laboratory related to mfg. spices, seasonings, food colors, NDGA antioxidant; includes chemistry, chemical engineering, plant physiology.

SWIFT & COMPANY, Research Laboratories,
Union Stock Yards, Chicago 9, Ill.
Dr. R. C. Newton, vice pres. in charge of scientific research.
Dr. Herbert E. Robinson, director of laboratories.

Related to applied and fundamental research and process control of meat and meat products, animal and vegetable oils, dairy and poultry products, soap and glycerin, and miscellaneous meat packing by-products. The research fields include chemistry, physics, bacteriology, biochemistry, nutrition, histology, microscopy, animal and poultry husbandry, zoology, veterinary science, physiology, chemical engineering, and home economics.

THE SYNTHETICAL LABORATORIES,
5558 W. Ardmore Ave., Chicago 30, Ill.
Consulting and research laboratories, includes biological, biochemical, chemical. Dr. Nicholas D. Cheronis, director of research.

THE TONI COMPANY,
456 Merchandise Mart, Chicago 54, Ill.
Raymond E. Reed, vice president.

Product development, research and quality control laboratory related to mfg. cosmetics. On the staff: Ray C. Houtz, S. R. Goff, Joseph H. Brant. This is a division of The Gillette Company, 15 West First St., Boston 6, Mass., Louis H. Young, vice president.

VELSICOL CHEMICAL CORPORATION,
330 E. Grand Ave., Chicago 11, Ill.
E. T. Collinsworth, Jr., exec. vice pres. & general manager.
Dr. Robert O. Sauer, vice pres. in charge of research & development.

Dr. Arthur Goldman, director of research.
Product development, research and technical service laboratory related to mfg. insecticides, fungicides, resins, solvents, industrial chemicals. Laboratories also at Marshall, Ill., and Memphis, Tenn.

VICO PRODUCTS COMPANY,
415 W. Scott St., Chicago 10, Ill.
A. D. Pashkow, president.
George Gelman, vice pres. & general manager.
Manufacturers of yeast autolysates and Vitamin B Complex concentrates. Laboratory related to this production.

THE VISKING CORPORATION,
6733 W. 65th St., Chicago 38, Ill.
A. G. Hewitt, vice pres. in charge of research, development and engineering.
Dr. W. F. Underwood, manager, Technical Division.
Manufacturers of synthetic sausage casings, plastic films, and nonwoven fabrics. All technical activities of the company are covered by the Technical Division, as above. Dr. L. M. Cooke is assistant to manager of the Technical Division. Dr. E. S. Sanderson is manager of Casing Research Department, and E. D. Fuller is manager of Plastic Film Development Department.

VITAMINS, INC.,
809 West 58th St., Chicago 21, Ill.
S. S. Kovacs, president.

Research and control laboratory related to mfg. vitamin products and biochemicals for nutritional research.

VITA-ZYME LABORATORIES, INC.,
546 W. Washington Blvd., Chicago 6, Ill.
Donald W. Ohlmeyer, president.

Product development, research and control laboratory related to enzyme processes and N-ZYMO brand enzyme products. Includes enzymology, food technology, microbiology, industrial fermentations, brewing.

WAHL-HENIUS INSTITUTE,
1135 W. Fullerton Ave., Chicago 14, Ill.
Robert I. Tenney, president.
Fred A. Wilcox, technical director.

Laboratory related to the brewing industry and to other industrial fermentations, food processing, bacteriological cultures, etc. Offers consulting services in quality control measures, process design and trouble shooting. Conducts research for clients upon contract or short-term basis. Operates a brewing school, pilot plant and analytical laboratories.

THE WANDER COMPANY,
105 W. Adams St., Chicago 3, Ill.
Fred H. Schultz, Jr., Ph.D., director of research.

This is main office of the company; laboratories are at Villa Park, Ill., to which please refer. Smith-Dorsey, Lincoln, Neb., is a Division of The Wander Company; please see that reference also.

WILSON & CO., INC., Research & Technical Division,
4100 S. Ashland Ave., Chicago 9, Ill.
Charles W. Becker, vice president.
George A. Crapple, director of research.

Meat packers and provisioners; product development, research and quality control laboratories related to this production. Include chemistry, bacteriology, dairy science, biochemistry, nutrition, engineering. Others on the staff: H. T. Spannuth, R. S. Burnett, W. C. Loy, A. C. Edgar, A. J. Steffen, W. E. Moss, A. I. Combes. Quality control laboratories at other plants. A Division of the company is The Wilson Laboratories, 4221 S. Western Ave., Chicago 9, Ill., to which please refer.

THE WILSON LABORATORIES,
4221 S. Western Ave., Chicago 9, Ill.
David Klein, Ph.D., general manager.
Dr. C. E. Graham, director of research.

Manufacturers of animal glandular derivatives and enzymes; maintains an extensive research and control organization related to the pharmaceutical industry and profession. This is a Division of Wilson & Co., Inc., 4100 S. Western Ave., Chicago 9, Ill., to which please refer.

NATIONAL YEAST CORPORATION,
Crystal Lake, Ill.

Control laboratory in plant at this location; John W. Gardner, plant supt. Please see this company, Belleville, N. J.

CRYSTAL LAKE

CONSOLIDATED PRODUCTS CO.,

119 N. Washington Ave., Danville, Ill.
Product development, research and quality control laboratory related to mfg. animal feed supplements from dairy products; includes chemistry, biochemistry, microbiology. Harold Young, chief chemist.

LAUHOFF GRAIN CO.,

329 E. North St., Danville, Ill.
Elton R. Darling, director of research.
Laboratory related to mfg. food and feed products.
Includes research and quality control.

DORN & COMPANY,

719 S. McClellan Ave., Decatur, Ill.
Dr. Herman W. Dorn, director of research & development.

Consultants in food technology, drugs and pharmacology, also mfg. fine chemicals. Includes product devel-

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GRANITE CITY

UNION STARCH & REFINING CO., INC.,
19th St. & R. R. Tracks, Granite City, Ill.
J. E. Cleland, vice pres. & technical director.
R. S. McKelly, assistant to technical director.
R. E. Pyle, research director.

Research, technical service and development laboratories related to mfg. food and industrial products; includes caramel food colors. The staff includes: A. L. Meyer, chemical engineering development; J. L. Woolsey, agricultural chemicals division; L. T. Chang, carbohydrate research; J. B. Longenecker, caramel color research division supervisor; J. F. Johnston, starch research division supervisor; F. X. Grossi, organic chemistry; George Dean, physical chemistry. Main offices of the company are Columbus, Indiana.

GREENVILLE

PET MILK COMPANY, Laboratories,
Greenville, Ill.
E. A. Louder, director.

Research and quality control laboratories related to mfg. milk products. This is a department of Pet Milk Company, St. Louis, Mo., to which please refer.

KANKAKEE

ARMOUR & COMPANY, Pharmaceutical Center,
Kankakee, Ill.

E. L. Patch, general manager in charge of The Armour Laboratories.

This is the manufacturing plant of Armour & Company Laboratories Division. The production includes pharmaceuticals, biologicals, hormones, enzymes, glandular products, and human blood processing. The facilities at this location were completed in late 1953 and represent an investment of some twelve million dollars. The site is a 175-acre tract two miles north of Kankakee. Dr. William J. Haines is technical director in charge of the Technical Division, which includes research and development, veterinary, quality control and medical departments. Dr. James B. Lesh is director of research and development; Dr. Joseph A. Hubata is medical director. Offices of The Armour Laboratories are P. O. Box 511, Kankakee, Ill. Please see also our reference to Armour & Company, Research Division, Chicago, Ill.

LaSALLE

CARUS CHEMICAL COMPANY, INC.,
1375 Eighth St., LaSalle, Ill.
E. H. Carus, president & general manager.
K. Kleimenhagen, executive vice president.

Laboratory related to production of pharmaceuticals and organic chemicals. Paul Carus, chief chemist.

LIBERTYVILLE

ALLIED MILLS, INC., Research Division,
Libertyville, Ill.
Dr. J. E. Hunter, director of research.
Dr. M. J. Brinegar, asst. director of research.

Research and control laboratory at this location related to mfg. livestock, poultry and other feeds and dog food, soya processing. Research farm also at Libertyville, likewise under the supervision of Dr. Hunter. The main office of Allied Mills, Inc., is 141 W. Jackson Blvd., Chicago 4, Ill., H. J. Buist, president.

THE QUAKER OATS COMPANY,
Libertyville, Ill.

Research farm at this location. The direction of all research throughout the company is centralized in the laboratories at Barrington, Ill., to which please refer.

MAYWOOD

AMERICAN CAN COMPANY, Technical Service Division,
11th Ave. & St. Charles Road, Maywood, Ill.
D. F. Sampson, manager, Technical Service Division.
W. E. Pearce, manager, Central Division Laboratory.

Dr. F. W. Geise, manager, Agronomy Division.

Laboratories at this location include as indicated above, those of the Technical Service Division, also the Central Division and the Agronomy Division. For other laboratories of the Technical Service Division, please see our reference to main office of the company, 100 Park Ave., New York 17, N. Y. Also please see our reference to this company's Research Center, Barrington, Ill.

COLEMAN INSTRUMENTS,

318 Madison St., Maywood, Ill.

John J. Staunton, director of research.

Product development and research laboratory related to mfg. chemical analytical instruments, pH meters, spectrophotometers.

opment, research, production control. On the staff: P. M. Dorn, analytical chemistry; W. Quinby, fine chemicals.

FLINT EATON & CO.,
300 E. Main St., Decatur 60, Ill.
C. R. Flint, general manager.

Fred J. Bandelin, technical director.

Pharmaceutical chemists. Research and control laboratory related to this production. Ronald Pankratz, head, analytical control laboratory.

IRWIN, NEISLER & COMPANY,
410 N. Morgan St., Decatur, Ill.
Dr. Chester J. Cavallito, director of laboratories.

Pharmaceutical manufacturers. Laboratory includes control and research on chemistry and pharmacology of synthetic organic and of natural pharmaceuticals.

SPENCER KELLOGG & SONS, INC., Soy Flour Division,
1900 N. Samuels St., Decatur, Ill.
Harry Olendorf, division manager.

John DeLane, plant manager.

Research and control laboratory in plant at this location, related to mfg. soybean flour, soybean oil meal and soybean oil. M. W. Dippold, chief chemist. Main offices of the company, 98 Delaware Ave., Buffalo 5, N. Y. Please see that reference, which also includes the Research Center at Buffalo.

A. E. STALEY MANUFACTURING CO.,
Decatur, Ill.
Thomas L. Gresham, vice pres., research and development.

The company's Research Division includes research, technical services, and engineering development departments. James A. Bralley is director of research. One section within the research department is the biochemical group, headed by Dr. A. W. Turner.

DIXON
THE BORDEN COMPANY, Manufactured Products Division,
920 Palmyra Ave., Dixon, Ill.

Dixon quality control laboratory at this address, related to mfg. food and nutrition products. J. R. Prohaska, manager. Main office of The Borden Company, 350 Madison Ave., New York 17, N. Y., to which please refer.

EAST ST. LOUIS

CORN BELT LABORATORIES, INC.,
215 Winstanley Ave., East St. Louis, Ill.
Dr. Anthony E. Bott, general manager.

Research and control laboratory related to mfg. animal biologicals; includes also consulting services.

ELGIN

THE BORDEN COMPANY, Nutritional Research Laboratory,
P. O. Box 533, Elgin, Ill.
M. D. Lloyd, manager.

Related to food and nutrition products. This is connected with The Borden Company, main office, 350 Madison Ave., New York 17, N. Y., to which please refer.

EVANSTON

WYETH LABORATORIES, Pharmaceutical Laboratories,
8100 McCormick Blvd., Evanston, Ill.
Hans Stratmann, managing director.

Dr. F. B. Cooper, technical director.

Pharmaceutical laboratories at this location include control of mfg. Executive and administrative offices of Wyeth Laboratories, Radnor, Pa., to which please refer.

FRANKLIN PARK

FEARN FOODS, INC.,
9353 Belmont Ave., Franklin Park, Ill.
Charles B. Hill, Jr., president.

Laboratory related to mfg. soup bases, seasoning and supplies for the meat packing industries, hotels, restaurants and food processors. Mois Sintov, director.

GLENVIEW

KRAFT FOODS COMPANY, Research Laboratories,
923 Waukegan Road, Glenview, Ill.
Charles W. Kaufman, vice president, research & development.

Related to mfg. cheese, salad products, dairy specialties; includes food technology, product improvement, by-product utilization. Main office of the company, 500 Peshtigo Court, Chicago 90, Ill., to which please refer.

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VIOBIN CORPORATION,
Monticello, Ill.
Ezra Levin, president.

Food and pharmaceutical preparations. Laboratory related to production of defatted wheat germ, wheat germ oil, raw animal tissue powders.

MONTICELLO

BAXTER LABORATORIES, INC.,
6301 Lincoln Ave., Morton Grove, Ill.
Dr. H. L. Fevold, Scientific Director.

Product development, research and quality control laboratories related to mfg. pharmaceuticals and surgical apparatus. Include biology, microbiology, physiology, pharmacy, organic syntheses, chemistry of natural products, analysis. On the staff: Dr. J. Reinhard, head, biology dept.; Dr. L. Ginger, biochemistry division; G. Treptow, quality control. A subsidiary is Hyland Laboratories, Inc., Los Angeles, Calif., to which please refer.

NORTHBROOK

INDUSTRIAL BIO-TEST LABORATORIES, INC.,
1810 Frontage Road, Northbrook, Ill.
J. C. Calandra, Ph.D., M.D., president & director.

Consulting laboratory, includes toxicology and biological evaluation of chemicals; product development, research, quality control.

NORTH CHICAGO

ABBOTT LABORATORIES, Research Division,
North Chicago, Ill.
Elmer B. Vliet, vice president and scientific administrator.
Dr. Robert D. Coghill, director of research.
Dr. Marlin T. Leffler, associate director of research.

Research laboratories related to mfg. pharmaceuticals, antibiotics, biologicals, glandular products, vitamin products. Dr. Richard K. Richards, director of pharmacological research. Norman A. Hansen, director of development laboratories. Dr. George R. Hazel, medical director. Elmer O. Krueger, director of control.

PEKIN

STANDARD BRANDS, INC., Pekin Mfg. Branch,
Pekin, Ill.
G. B. Stolley, manager
J. C. Clayberg, chief chemist.

Control laboratory related to mfg. food and nutrition products. Includes bacteriological, biochemical, chemical. This is a unit of Standard Brands, Inc., 595 Madison Ave., New York 22, N. Y., to which please refer.

PEORIA

NATIONAL DISTILLERS PRODUCTS CORPORATION,
Erie & Crowell Sts., Peoria, Ill.
Control laboratory related to mfg. alcoholic beverages in plant at this location. Ed. Blessinger, chief chemist. Executive offices of the company, 99 Park Ave., New York 16, N. Y., to which please refer.

NORTHERN UTILIZATION RESEARCH BRANCH,
825 N. University St., Peoria 5, Ill.
W. Dayton Maclay, chief.
Carl E. Rist, assistant chief.
Harry E. Roethe, assistant to the chief.

This is one of four "Branches" of similar title administered by the Agricultural Research Service, U. S. Dept. of Agriculture, G. E. Hilbert, director, utilization research. This Branch is concerned, for the most part, with products and by-products of the northern agricultural area, such as cereals, particularly wheat and corn, oil seeds, particularly soybeans, and agricultural residues. Enumeration of seven "Sections" in the organized set-up will indicate to some extent the scope of the investigations: Analytical and physical chemistry and physics, Richard Wiebe, head. Cereal crops, Frederic R. Senti, head. Engineering and development, Jesse R. Dilley, acting head. Fermentation, Richard W. Jackson, head. Forage and agricultural residues, Herbert J. Dutton, head. Oilseeds, John C. Cowan, head. Mechanical services, Thomas L. Bailey, Jr., head. See also our general reference to United States government departments, Washington, D. C.

HIRAM WALKER & SONS, INC.,
Peoria 1, Ill.
Dr. C. S. Boruff, technical director.
Research and control laboratory related to mfg. animal feeds, riboflavin and beverage alcohol.

MORTON GROVE

MOORMAN MANUFACTURING CO.,
29th & Chestnut, Quincy, Ill.

Dr. W. P. Elmslie, director of research.

Research and control laboratory related to mfg. live-stock feeds, worm expellers, insecticides. There are four divisions: Nutrition research, Dr. M. J. Caldwell; veterinary research, Dr. R. A. Sturdy; quality control, A. J. Gehrt; field research, Roger Mittelberg.

QUINCY

RINGWOOD CHEMICAL CORPORATION,
Ringwood, Ill.

Dr. W. S. Guthmann, president.

Dr. Robert L. Frank, vice pres. in charge of research.

Dr. J. F. Kaplan, director of development.

The corporation produces fine organic chemicals on pilot plant and plant scale; includes also custom mfg. of fine organic chemicals. Laboratory facilities of this company are maintained at Woodstock, Ill.; please see our reference to that location.

ROCKFORD

KEN-L-PRODUCTS DIVISION, The Quaker Oats Co.,
Peoples Ave., Rockford, Ill.

Research kennels at this location. The direction of all research throughout the company is centralized in the research laboratories, Barrington, Ill., to which please refer.

ROCKFORD

PIERCE CHEMICAL COMPANY,
P. O. Box 117, Rockford, Ill.

Dr. Alan E. Pierce, Owner.

Product development, research and quality control laboratories at this location, in organic chemistry, related to mfg. fine chemicals.

SKOKIE

INTERNATIONAL MINERALS & CHEMICAL CORPORATION, General Research Laboratory,

5401 Harrison St., Skokie, Ill.

Dr. Paul D. V. Manning, vice pres. in charge of research.

Dr. I. M. LeBaron, director of research.

General Research Laboratory, operated by the Research Division, includes facilities for organic chemical, biochemical, agronomic and nutritional research on behalf of operating divisions of the corporation. The following are at this location: Foster Crampton, manager of laboratory services; Dr. M. B. Gillis, manager of research in organic chemical and biochemical sciences; Dr. O. L. Norman, supervisor of organic chemical research; Dr. J. C. Engibous, supervisor of biological research; Dr. F. Hoglan, supervisor of biochemical process research. General offices of the corporation are 20 N. Wacker Drive, Chicago 6, Ill., to which please refer.

SPRINGFIELD

PILLSBURY MILLS, INC., Bakery Division Laboratory,
1525 E. Phillips Ave., Springfield, Ill.

A. F. Borer, manager.

Laboratory on bakery mix product development at this location. Main office, Pillsbury Mills, Inc., Minneapolis, Minn., to which please refer.

TUSCOLA

NATIONAL PETRO-CHEMICALS CORPORATION,
Tuscola, Ill.

John W. Nixon, plant manager.

This company operates at this location, a new \$45-000,000 plant for the production of hydrocarbons and ethylene derivatives. It is affiliated with but not exclusively owned by the National Distillers Products Corporation, and it is managed by the latter corporation's division, U. S. Industrial Chemicals Co., 99 Park Ave., New York 16, N. Y., to which please refer.

URBANA

CLARK MICROANALYTICAL LABORATORY,
P. O. Box 17, Urbana, Ill.

Howard S. Clark, Director.

Specialists in organic microchemical analysis; devoted exclusively to serving the profession. Consultation. Full time staff of eight.

KLER & KOLLER LABORATORIES,
307 S. Illinois Ave., Villa Park, Ill.
Arthur J. Koller and Margaret M. Koller.
Contract research, chemistry, biochemistry; consultation, bacteriology, toxicology; quality control for industry.

S WANDER COMPANY,
Villa Park, Ill.
Laboratories at this location, related to food and traction products, vitamin products, pharmaceuticals. clude research, control of mfg. Robert W. Haman, Ph. , chief chemist. Main office of The Wander Company, 5 W. Adams St., Chicago 3, Ill., at which address Fred Schultz, Jr., Ph.D., is director of research.

WOODSTOCK
MORTON SALT COMPANY, Research Department,
Route 14, South, Woodstock, Ill.
Dr. Robert L. Frank, director of research.
Research & development laboratory on inorganic chemicals. New modern structure at this location houses the company's principal research activities. Main office of the company, 120 S. LaSalle St., Chicago 3, Ill. Please see also Ringwood Chemical Corporation, at the Woodstock address.

RINGWOOD CHEMICAL CORPORATION, Research Department,
Route 14, South, Woodstock, Ill.
Dr. Robert L. Frank, vice pres. in charge of research.
Research and development laboratory at this location related to mfg. organic chemicals. See also Morton Salt Company, same address. Main office of Ringwood Chemical Corporation is Ringwood, Ill., to which please refer.

INDIANA

COLUMBUS
MONION STARCH & REFINING CO., INC.,
Columbus, Ind.
Laboratories of this company are shown at Granite City, Ill., to which please refer.

DECATUR
CENTRAL SOYA CO., INC.,
Decatur, Ind.
Please see our reference to this company's McMillen Feed Mills Division, same address.

McMILLEN FEED MILLS, Division of Central Soya Co., Inc.,
Decatur, Ind.
W. W. Cravens, director of feed research & nutrition.

Feed research and nutrition laboratory in mill at his location. Dr. L. V. Curtin, asst. director of feed research & nutrition; W. L. Soldner, assoc. director of feed research; G. R. Childs, asst. in feed research. Main office of Central Soya Co., Inc., 300 Ft. Wayneank Bldg., Fort Wayne 2, Ind., to which please refer.

ELKHART
MES COMPANY, INC.,
819 McNaughton Ave., Elkhart, Ind.
This company's research organization is The Miles-ames Research Laboratory, Elkhart, Ind., to which please refer.

THE MILES-AMES RESEARCH LABORATORY,
808 McNaughton St., Elkhart, Ind.
L. A. Crandall, Jr., Ph.D., M.D., director.
This is a research organization which carries out investigative work for two companies, both pharmaceutical manufacturers, as named and identified below. The Miles-ames Research Laboratory is divided into five sections; 1) Biochemistry, A. H. Free, Ph.D., head. (2) Microbiology, Leonard B. Schweiger, Ph.D. head. (3) Organic chemistry, Otis E. Fancher, Ph.D., head. (4) Physiology and pharmacology, Robert K. S. Lim, Ph.D., M.D., head. 5) Pilot plant, Raymond L. Snell, B.S., head. The two participating companies as mentioned above are respectively: Ames Company, Inc., pharmaceutical manufacturers in the prescription field, and Miles Laboratories, Inc., manufacturing advertised household remedies. Please see our reference to these companies, both at Elkhart, Ind. The executive representing both companies is W. A. Compson, M.D., vice president in charge of the Medical-Research Division.

MILES LABORATORIES, INC.,
1127 Myrtle St., Elkhart, Ind.
This company's research organization is The Miles-ames Research Laboratory, Elkhart, Ind., to which please refer.

SUMNER CHEMICAL COMPANY, INC.,
820 McNaughton St., Elkhart, Ind.
Dr. W. J. Croxall, director of research.
Product development and research laboratories at this location related to mfg. fine organic chemicals. Includes chemistry and chemical engineering. Dr. M. F. Zienty, asst. director of research is in charge. See also our reference to Miles Laboratories, Elkhart, Ind. Main office and plant of Sumner Chemical Company, Inc., is at Zeeland, Mich., to which please refer.

EVANSVILLE
IGLEHEART BROTHERS, Jell-O Division of General Foods Corporation,
1600 First Ave., Evansville 7, Ind.
Dr. D. DeFelice, research manager, Jell-O Division.
R. A. Hudson, asst. research manager, Jell-O Division.
J. L. McReynolds, manager, Evansville Laboratory.
Research and control laboratories related to flour milling and mfg. prepared foods. Main office of General Foods Corporation, White Plains, N. Y., to which please refer.

MEAD JOHNSON & COMPANY,
Evansville 21, Ind.
D. Mead Johnson, president.
Dr. Ben King Harned, vice pres. for research.
Manufacturers of nutritional and pharmaceutical specialty items. The laboratories include research and control of manufacturing. The staff of the research division includes the following: Dr. Rudolph C. Ellingson, director, nutritional research and product development. Dr. Marshall R. Warren, director, pharmaceutical research and product development. Others on the staff are: Dr. Warren M. Cox, technical director of the laboratories; Dr. Francis G. McDonald, director of quality control laboratories; Dr. Robert C. Little, director of clinical research.

FORT WAYNE
CENTRAL SOYA CO., INC.,
300 Fort Wayne Bank Bldg., Fort Wayne 2, Ind.
Feed research and nutrition laboratory in mill of McMillen Feed Mills Division, Decatur, Ind., to which please refer. Other plants located at Chattanooga and Memphis, Tenn., Gibson City, Ill., Marion, Ohio, and Harrisburg, Pa. Analytical laboratories located in all plants.

HAMMOND
PRATT FOOD COMPANY,
25 Industrial Road, Hammond, Ind.
R. H. Shanaman, president.
Harold L. Bush, director of research.
This is main office of the company. Research and control laboratory related to mfg. animal and poultry feeds and remedies; Karl F. Mahlstedt, director.

INDIANAPOLIS
FREDERICK C. ATKINSON, INC.,
213 East South St., Indianapolis 25, Ind.
F. C. Atkinson, president.
Consulting services, research, control of mfg. Includes analysis in metals, chemical fertilizers, animal feeds.

THE BARBASOL COMPANY,
846 N. Senate Ave., Indianapolis 7, Ind.
Miles A. Shern, chief chemist.
Product development, research and quality control laboratory related to mfg. Barbasol shaving cream and other toilet preparations. Includes cosmetic chemistry.

KINGAN, INCORPORATED,
Blackford & Maryland Sts., Indianapolis 6, Ind.
V. R. Rupp, technical director.
Product development, research and quality control laboratories related to mfg. meat products. M. C. Brockman, director of research. Kingan, Inc., is a unit of Hygrade Food Corporation, Detroit, Mich., to which please refer.

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ELI LILLY & COMPANY

Indianapolis 6, Ind.
Dr. Thomas P. Carney, vice pres., research, development and control.
Dr. J. A. Leighty, executive director, scientific research.
Dr. Raymond M. Rice, executive director, medical research.
Dr. W. B. Fortune, director, control.
Dr. G. L. Barnes, executive director, agricultural & industrial products division.
Dr. E. C. Kleiderer, executive director, development division.

Manufacturers of pharmaceuticals, antibiotics, biologicals, glandular products, vitamin products, chemicals. The Lilly research laboratories, at this location, include research, product development and control related to this production. The agricultural and industrial products division is relatively new, and it is concerned in four primary fields of agricultural research: animal nutrition, veterinary medicine, plant pathology and physiology, and entomology and insecticides. The company has a plant also near Lafayette, Ind., the Tippecanoe Laboratories, which are a manufacturing unit in entibiotics.

PITMAN-MOORE CO., Division of Allied Laboratories, Inc., P. O. Box 1656, Indianapolis 6, Ind.
Kenneth F. Valentine, president.

H. O. Ball, executive vice president.

Manufacturers of pharmaceuticals, antibiotics, biologicals. Part of the Pitman-Moore research laboratories are located in Indianapolis, address as above, where also are the offices of Dr. Carl A. Bunde, research director; Dr. B. E. Abreu, associate research director; and Dr. Harold A. Nash, director of chemical research. A new building is under construction in Indianapolis which will increase the space allotted to these operations by at least 30 per cent. Also the entire pharmaceutical production is located at Indianapolis, and is under the direction of C. T. Harman, vice president in charge of pharmaceutical production. Pharmaceutical control is under Dr. A. E. Jarvis. In a rural location with the postoffice address of New Augusta, Indiana, is located the research farm, where preliminary clinical research is carried out on domestic animals under the direction of Dr. George R. Burch, director of the research farm. Here also are located the virus research laboratory, under Dr. Charles York, director; and more recently the pathology laboratory, under the direction of Dr. V. B. Robinson. All of these latter operations are part of the research department located at Indianapolis, and as stated under the administration of Dr. Bunde. At Zionsville, Ind., also a rural location, the biological production and development operations are carried out under Dr. S. R. Bozeman, director, and Dr. A. H. Brueckner, assistant director.

STANDARD BRANDS INCORPORATED, Manufacturing Department Laboratory, 1102 Roosevelt Ave., Indianapolis 6, Ind.
L. A. Carman, general manager.
G. B. Crump, chief chemist.

Research and control laboratory related to mfg. oleomargarine and mayonnaise. Main offices of Standard Brands Incorporated, 595 Madison Ave., New York 22, N. Y., to which please refer.

STOKELY-VAN CAMP, INC., 941 N. Meridian St., Indianapolis 6, Ind.
W. C. Kruger, vice pres., gen. manager of production.
L. F. Rutledge, laboratory manager.

Research and quality control laboratories related to mfg. canned foods.

LAWRENCEBURG

SCHENLEY LABORATORIES, INC., Lawrenceburg, Ind.

Laboratories at this location related to mfg. pharmaceuticals. Executive offices are 350 Fifth Ave., New York 1, N. Y., at which address are Dr. Bruno Puetzer, vice president, research, also B. Marr Lanman, M.D., director of clinical research.

ROBY

AMERICAN MAIZE PRODUCTS CO., Roby, Ind.

Dr. James W. Evans, director of research.

Research and control laboratory related to mfg. products from corn, including starches, dextrines, oil, syrups, sugars, lactic acid. Dr. E. L. Powell, asst.

director of research. Dr. G. H. McIntosh, chief of analytical laboratory. Main office of American Maize Products Co. is 250 Park Ave., New York 17, N. Y.

SEYMORE

THE CENTRAL PHARMACAL COMPANY,

120 E. Third St., Seymour, Ind.

Dr. Carl J. Klemme, Director, Research & Development.

Product development, research and quality control laboratory related to mfg. pharmaceuticals. George F. Meahl, Jr., chief control chemist.

SOUTH WHITLEY

NUTRITIONAL RESEARCH ASSOCIATES, INC.,

South Whitley, Ind.

Albert F. O. Germann, Sc.D., president.

Vernon Jersey, Ph.D., secretary-treasurer.

Norman Fricke, manager, research farm.

Laboratory related to mfg. pure and commercial carotene crystals, carotene in oil, carrot oil, food color; also development new and improved animal feed supplements.

TERRE HAUTE

COMMERCIAL SOLVENTS CORPORATION,

Terre Haute, Ind.

Maynard C. Wheeler, vice pres. in charge of research, development & engineering.

Jerome L. Martin, director of research.

Manufacturers of pharmaceuticals, antibiotics, agricultural chemicals, industrial chemicals, potable spirits, and automotive chemical specialties. Research center at this location. Director of laboratory research, Marvin C. Bachman; director of engineering research, Robert A. Shuster, Jr.; director of Nitroparaffin development, Dr. Richard S. Egly. General offices of the company, 260 Madison Ave., New York 16, N. Y.

CHAS. PFIZER & CO., INC., Agricultural Research & Development Center,

Terre Haute, Ind.

Research on animal health and nutrition is carried out on a 700-acre site at this location. Please see our reference to main office of the company, Brooklyn, N. Y.

THORNTOWN

HOOSIER VETERINARY LABORATORIES,

Thorntown, Ind.

Dr. M. M. Seeger, manager.

Producer of anti-hog-cholera serum and hog-cholera virus, also distributor of other products for veterinarians. B. G. Ottinger, production supt.

IOWA

CEDAR RAPIDS

PAUL MANEY LABORATORIES, INC.,

400 S. E. First St., Cedar Rapids, Iowa.

Paul V. Maney, Ph.D., president.

Manufacturing pharmaceutical chemists. Research and control laboratory related to this production.

PENICK & FORD, LTD., INC.,

Tenth Ave. & First St., Cedar Rapids, Iowa.

Research and control laboratory related to mfg. food products. Director, Dr. Carl C. Kesler. Main offices of the company, 420 Lexington Ave., New York 17, N. Y.

CHARLES CITY

DR. SALSBURY'S LABORATORIES,

500 Gilbert St., Charles City, Iowa.

Dr. J. E. Salsbury, president.

Dr. J. G. Salsbury, vice pres. & gen. manager.

T. W. Zbornik, manager of research.

Dr. J. F. Harr, head of diagnosis.

Manufacturers of veterinary (particularly poultry) vaccine, antigens, pharmaceuticals and arsenical growth stimulants; disinfectants, insecticides. Includes research on chemotherapy, bacteriology, virology, protozoology and helminthology relating to poultry diseases; diagnosis, control of products.

CLINTON

CLINTON FOODS, INC., Corn Processing Division,

Clinton, Iowa.

George T. Peckham, Jr., Research Director.

Dr. J. M. Newton, Director, Technical Sales Service.

Product development, research and quality control laboratories related to mfg. corn syrups, corn sugars, corn starches, lactic acid and refined corn oil. In-

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SIOUX CITY

AMERICAN SERUM COMPANY,
2117 Leech St., Sioux City 1, Iowa.
Thomas B. Huff, general manager.

Dr. J. M. Klas, production manager.

Laboratories at this location related to mfg. animal biologics.

SIOUX CITY SERUM CO.,
1100 Bluff Road, Sioux City, Iowa.
Dr. T. W. Munce, president.

Manufacturers of hog cholera serum and virus. This is a unit of Allied Laboratories, Inc., Kansas City, Mo., to which please refer.

SIOUX HONEY ASSOCIATION,
509-11 Plymouth St., Sioux City, Iowa.
R. F. Remer, manager.

Robert W. Meloy, research chemist.

Product development, research and quality control laboratory related to "Sioux Bee" honey products. Includes chemistry, bacteriology, mycology. On the staff: Evelyn Levering, technician. Quality control laboratories in other locations.

WATERLOO

THE RATH PACKING CO.,
Waterloo, Iowa.

R. W. Rath, asst. vice pres. in charge of research & development.

R. C. Burrell, technical director.

Glenn E. Cooper, analytical chemist.

The company's research & development department includes the analytical laboratory, meat research laboratory, bakery research laboratory, product development department, research engineering, and complete pilot plant facilities. A separate laboratory is maintained for the Fats & Oils Division, under supervision of John Harrison.

KANSAS

HUTCHINSON

THE CAREY SALT COMPANY,
B & Poplar Sts., Hutchinson, Kans.
Paul V. Imes, Chief Chemist.

Product development, research and quality control laboratory related to mfg. salt and salt mixtures. Includes chemistry and physics. J. Boyd Finney, research chemist; P. T. Wharton, control chemist. Control laboratory of this company also at Winnfield, La., to which please refer.

KANSAS CITY

CURTS LABORATORIES,
70 Central Ave., Kansas City 18, Kans.
George D. Curts, Ph.D., general manager.

K. M. Curts, D.V.M., research director.

Product development, research and quality control laboratory related to mfg. veterinary pharmaceuticals.

MISSOURI VALLEY SERUM CO.,
50 N. Second St., Kansas City 18, Kans.
Laboratory related to mfg. animal biologics. J. L. Kennedy, president.

THOMPSON-HAYWARD CHEMICAL CO.,
27 Greystone, Kansas City, Kans.

Please see our reference to this company, 2915 Southwest Blvd., Kansas City, Mo.

MANHATTAN

PATTERSON-HARWOOD LABORATORIES, INC.,
P. O. Box 678, Manhattan, Kans.

Manufacturers and distributors of veterinary biologics. Laboratory related to this production. Dr. N. D. Harwood, president & gen. manager.

PITTSBURG

SPENCER CHEMICAL COMPANY, Research Laboratory,
Pittsburg, Kans.
Archie J. Deutschman, Jr., director, chemical research.

Product development and research laboratory at this location related to mfg. fertilizers, plastics and industrial chemicals. Includes organic, inorganic and biological chemistry. This is a unit of Spencer Chemical Company, Kansas City, Mo., to which please refer.

ludes chemistry, physics, bacteriology. Arthur G. Rohrer, technical supervisor, analytical laboratories. E. C. Crosby, supervisor of starch research. Robert G. Mohr, supervisor of sugar and syrup research. G. M. Turkert, supervisor of milling and by-product research.

ILLSBURY MILLS, INC., Feed and Soy Division,
212 Wilson Bldg., Clinton, Iowa.

Everett A. Blasing, director of nutrition,
manager.

Product development, quality control and research laboratory related to soy processing, mfg. feeds, and animal nutrition. Also on the staff, K. E. Quaal. Main office, Pillsbury Mills, Inc., Minneapolis, Minn., to which please refer.

DES MOINES

DIAMOND LABORATORIES,

P. O. Box 863, Des Moines 17, Iowa.

Karl Ratcliff, manager, pharmaceutical division.

Dr. J. F. England, manager, biological division.

Product development, research and control laboratories related to mfg. veterinary, biological and pharmaceutical products.

VY LACTOS LABORATORIES, INC.,
1901 E. Euclid Ave., Des Moines 13, Iowa.

G. M. Severson, director of nutrition.

Boris Kviesitis, analytical chemist.

Product development, research and quality control laboratory related to mfg. animal nutrition products and supplements. Includes dehydrated molasses, dehydrated fish solubles, antibiotic and vitamin formulations.

FORT DODGE

FORT DODGE LABORATORIES, INC.,
Fort Dodge, Iowa.

Laboratories related to mfg. animal biologicals and pharmaceuticals. L. R. Baker, director, biological laboratory (production and control). A. H. Killinger, director, biological product development. G. T. Edds, director, pharmaceutical product development and control. This is a unit of American Home Products Corporation, 22 East 40th St., New York 16, N. Y., to which please refer.

GEO. A. HORMEL & CO.,

N. First St., Fort Dodge, Iowa.

Research and control laboratory related to mfg. meat products, lard, stock feed, etc. Representing the laboratory, Edward Hryniewiecki, chemical engineer. Main office of the company, Austin, Minn.

INDIANOLA

GENERAL MILLS, INC., Larro Research Farm,

P. O. Box 263, Indianola, Iowa.

H. Ernest Bechtel, Ph.D., director.

Roy C. Settergren, chief chemist.

Laboratory related to mfg. Larro feeds for livestock. Main offices of General Mills, Inc., 400 S. Second Ave., Minneapolis, Minn., to which please refer.

KEOKUK

THE HUBINGER COMPANY,

601 Main St., Keokuk, Iowa.

John M. Seitz, director of research.

John Harness, chief chemist.

This is main office of the company; manufacturers of starches and syrups from corn. Research and control laboratory concerned with the wet milling of starch from corn and sorghum grain.

MUSCATINE

GRAIN PROCESSING CORPORATION, Technical Department,
1600 Oregon, Muscatine, Iowa.

Austin M. Hanson, technical director.

Product development, research and quality control laboratory related to the manufacture of primary fermentation products. Includes bacteriology, bio-chemistry, bio-engineering. Others on the staff: Ronald C. Malzahn, senior bacteriologist; Alpha Morehouse, senior nutritionist; Henry P. Cincere, senior engineer; S. T. Tierney, chief chemist.

OTTUMWA

JOHN MORRELL & CO.,

Ottumwa, Iowa.

W. W. McCallum, president.

C. E. Gross, director of scientific research.

Research and quality control laboratory related to mfg. meat products. Branch laboratory at Sioux Falls, S. Dak.

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SOUTHWESTERN SERUM CO., WICHITA

P. O. Box 1540, Wichita, Kans.
Fred J. Rathman, president.

E. L. Boley, vice president.

Laboratories related to mfg. anti-hog cholera serum, hog cholera virus; hog cholera vaccine, tissue origin; hog cholera vaccine, crystal violet.

KENTUCKY

LOUISVILLE

BROWN & WILLIAMSON TOBACCO CORPORATION, 1600 W. Hill St., Louisville 1, Ky.

I. W. Tucker, Director of Research.

Product development, research and quality control laboratory related to mfg. tobacco products. Includes chemistry, physics, biology, biochemistry, chemical engineering. H. W. Mayhall, chief chemist. Laboratory also at Petersburg, Va.

THE GLIDDEN COMPANY, Food Division (Durkee Famous Foods), 1303 Shelby St., Louisville, Ky.

Oliver J. Fiala, head of the laboratory.

Major laboratory of the Division in plant at this location. Main office of the company, Cleveland, Ohio; please see that reference for statement of products of the division, also additional executive personnel.

HIRSCH BROS. & CO., INC., 14th & Cedar Sta., Louisville 3, Ky.

Manufacturers of canned foods, condiments, etc. Research and control laboratory related to this production. Irving P. Kaufman, chief chemist.

PILLSBURY MILLS, INC., Ovenready Division Laboratory, 912 E. Broadway, Louisville, Ky.

Dr. J. R. Stockton, technical division manager.

Laboratory on refrigerated products development at this location. Main office, Pillsbury Mills, Inc., at Minneapolis, Minn., to which please refer.

JOSEPH E. SEAGRAM & SONS, INC., Research Department, Seventh Street Road, Louisville 1, Ky.

S. L. Adams, director of research.

Laboratory whose research activities include raw materials and process development in mfg. beverage alcohol. Scientific fields represented are chemistry, bacteriology, biochemistry and chemical engineering. Manufacturing executive offices also at this location.

LOUISIANA

METAIRIE

HUNTER LABORATORIES, INC., 110 Transcontinental Drive, Metairie 20, La.

M. C. Hunter, Ph.D., director.

Consulting commercial laboratory extending services in bacteriology, virology, mycology, biochemistry, toxicology; includes product development, research and quality control. Others on the staff include, M. J. LeDoux, M.D., toxicology; B. B. Hunter, M.S., biochemistry.

NEW ORLEANS

GODCHAUX SUGARS, INC.,

Carondelet Bldg., New Orleans 12, La.

Research laboratory in plant at Reserve, La., to which please refer.

SHILSTONE TESTING LABORATORY

814 Conti St., New Orleans 16, La.

Cecil M. Shilstone, director.

Inspecting and consulting chemists. Includes standard solutions, special process chemicals, research, general analytical chemistry, tests of materials. Offices also at Houston and Corpus Christi, Texas, and Baton Rouge, La.

SOUTHERN BIOLOGICAL SUPPLY CO., INC.,

517 Decatur St., New Orleans 16, La.

Percy Viosca, Jr., president.

Henry B. Chase, Jr., vice president.

Laboratory related to the production of biological specimens, living and preserved; includes research, consultation, educational.

SOUTHERN UTILIZATION RESEARCH BRANCH,

1100 Robert E. Lee Blvd., New Orleans 19, La.

Charles H. Fisher, chief.

Gilbert E. Goheen, assistant chief.

A. Mason DuPre, Jr., special asst. to the chief.

Ralph M. Persell, technical asst. to the chief.

This is one of four "Branches" of similar title administered by the Agricultural Research Service, U. S. Dept. of Agriculture, G. E. Hilbert, director, utilization research. This Branch is concerned, for the most part, with products and by-products of agriculture in the South including development of new and improved processes and equipment for utilization of cotton, citrus fruits, rice, peanuts, tung oil, cane sugar, turpentine and rosin. Enumeration of ten "Sections" in the organized set-up will indicate to some extent the scope of the investigations: Cotton chemical processing, Charles F. Goldthwait, head. Cotton mechanical processing, Robert J. Cheatham, head. Oil seed, Aaron M. Altschul, head. Fruit and vegetable, Vernon H. McFarlane, head. Analytical, physical-chemical and physics, Turner H. Hopper, head. Engineering & development, Edward A. Gastrock, head. Cotton fiber, Carl M. Conrad, head. Sugarcane products, Lawrence F. Martin, head. Naval stores investigations, Elmo L. Patton, head, Olustee, Fla. Mechanical services, James B. Davies, head. See also our general reference to United States government departments, Washington, D. C.

WALLACE MENHADEN PRODUCTS, INC.,

909 S. Jefferson Davis Parkway, New Orleans 25, La.

Theodore M. Miller, research director.

This is main office of the company. Product development, research and quality control laboratories at plant, Morehead City, N. C., to which please refer. Quality control set-ups also at Wallace Fisheries Co., Morehead City, N. C., and at the following: Empire Menhaden Co., Empire, La.; Louisiana Menhaden Co., Cameron, La.; Mayport Fisheries Co., Fernandina, Fla.

OPELOUSAS

COTTON PRODUCTS CO., INC.,

P. O. Box 591, Opelousas, La.

Cotton oil refinery at this location. Laboratory engaged in research and control, vegetable oil products for foods and feeds. Wales Newby, director.

RESERVE

GODCHAUX SUGARS, INC., Research Laboratory,

Reserve, La.

Dr. L. G. Joyner, director of research.

Related to sugar, sugar cane and molasses processing and by-products. Includes research and development. This is a department of Godchaux Sugars, Inc., New Orleans La., to which please refer.

WINNFIELD

THE CAREY SALT COMPANY,

Winnfield, La.

Control laboratory at this location; J. B. Tully, chemist. Main office of the company, Hutchinson, Kansas, to which please refer.

MAINE

BRUNSWICK

H. C. BAXTER & BRO.,

108 Main St., Brunswick, Maine.

Please see our reference to this company, Hartland, Maine.

HARTLAND

H. C. BAXTER & BRO.,

Lock Box 81, Hartland, Maine.

Joseph W. Cyr, Director of Quality Control.

Product development, research and quality control laboratory at this location related to mfg. canned and dehydrated vegetables, foods. Includes food technology, chemistry, etc. Main office of the company, 108 Main St. Brunswick, Maine.

MARYLAND

BALTIMORE

AMERICAN BIO-CHEMICAL LABORATORY, INC.,

3040 West North Ave., Baltimore 16, Md.

Dr. E. J. Gerberg, president.

Dr. S. L. Goldheim, vice pres. & director.

Analytical and consulting, mostly food analysis and technology, along with general chemical. Some development of specialty products allied to food packaging.

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BALTIMORE BIOLOGICAL LABORATORY, INC., Division of Becton, Dickinson & Co.,
1640 Gorsuch Ave., Baltimore 18, Md.
Theodore J. Carski, president.
Related to mfg. powdered bacteriological media, special bio-chemical apparatus. Includes research and control.

BIO-RAMO DRUG CO., INC.,
9 North Eutaw St., Baltimore 1, Md.
Clifford W. Price, Ph.D., Vice Pres.- Technical Director.

Product development, research and quality control laboratory related to mfg. antibiotics, hormones, vitamins, biologicals, pharmaceuticals. Includes bacteriology, pharmacology, chemistry.

CRIPPEN & ERLICH LABORATORIES, INC.,
1138 E. North Ave., Baltimore 2, Md.
Dr. Chester A. Snell, vice president.

This is a wholly-owned subsidiary, one of two Divisions of Foster D. Snell, Inc., New York, N. Y., to which please refer. Consultation, research, development, analysis; includes organic chemicals, wines and liquors, agricultural chemicals.

CROWN CORK & SEAL COMPANY, INC.,
P. O. Box 1837, Baltimore 3, Md.
Edward M. Redding, Sc.D., director of research & development.

Laboratory related to packaging food products, beverages, pharmaceuticals and cosmetics in metal, glass and metal, and plastic containers. Other key personnel are: Lewis Wallace, manager of process development; Eibe Wilckens, manager of mechanical development; Edgar Heyl, manager of applied research.

EASTERN RESEARCH LABORATORIES, INC.,
14 West Eager St., Baltimore 1, Md.
William H. Batt, president.

Manufacturer, ethical medicinal specialties. Research and consulting laboratory at this location; includes pharmaceuticals, nutrition products, glandular products.

LaMOTTE CHEMICAL PRODUCTS CO.,
Towson 4, Baltimore, Md.
William R. Kenny, director of research.

Product development and research laboratory related to mfg. special chemicals for biochemical research.

MCCORMICK & COMPANY, INC.,
Baltimore 2, Md.
R. L. Hall, research director.
H. W. Kuhl, chief chemist.

Research & development laboratory related to spices, extracts, flavors and miscellaneous food products. Control laboratory related to mfg. food products.

MUTUAL CHEMICAL DIVISION, Allied Chemical & Dye Corp.,
1348 Block St., Baltimore 31, Md.
Dr. Raymond L. Copson, Director of Research.
Marc Darrin, Associate Director of Research.

At this location, product development and research laboratories in chemistry and chemical engineering, related to mfg. chromium chemicals. This is a unit of Allied Chemical & Dye Corporation, 61 Broadway, N. Y. 6, N. Y., of which F. J. Emmerich, president, represents the product development and research department.

NATIONAL DISTILLERS PRODUCTS CORPORATION,
Soilers Point Road, Baltimore 22, Md.
Control laboratory in plant at this location, related to mfg. alcoholic beverages. Henry Steingass, chief chemist. See executive offices of the corporation, 99 Park Ave., New York 16, N. Y.

PENNIMAN & BROWNE, Inc.,
341 St. Paul Place, Baltimore 2, Md.
George D. Penniman, Jr., executive officer.
Dante G. Beretta, chief chemist.
Chemical engineers, analysis, consulting. Laboratory includes research and control on pharmaceuticals, food and vitamin products, cultures, organic chemicals, biochemicals.

STRASBURGER & SIEGEL,
1403 Eutaw Place, Baltimore 17, Md.

Chemists and bacteriologists, consulting, includes control of mfg. Directors, L. V. Strasburger and Maurice Siegel.

WILEY & COMPANY, INC.,
Calvert & Read Sts., Baltimore 2, Md.
S. W. Wiley, Jr., president.

Analytical chemists. Laboratory includes product development, research and quality control on fertilizer, feed, allied lines, water, etc.

BELTSVILLE

AGRICULTURAL RESEARCH CENTER, U. S. Department of Agriculture,

Beltsville, Md.
Byron T. Shaw, administrator, Agricultural Research Service.

The Center is a part of the Agricultural Research Service, U. S. Department of Agriculture, and it is maintained primarily for the benefit of its own research branches. The Center provides the over-all operating services and the related management necessary to the efficient conduct of the research work performed there. Please see our general reference to U. S. government departments for further explanation of the very comprehensive research programs originating in or channeled through the Agricultural Research Center. Among government agencies using the Center, other than those of the Agricultural Research Service, are the Forest Service, U. S. Department of Agriculture, and the Veterinary Section of the Food & Drug Administration, Dept. of Health, Education and Welfare. Adjoining the Center but not a part of it, is the Patuxent Research Refuge of the Fish & Wildlife Service, Department of the Interior.

The Agricultural Research Center is located 15 miles northeast of Washington, D. C., near the suburban town of Beltsville, Md. It occupies a total of about 12,000 acres divided into two separate tracts on opposite sides of the Washington-Baltimore Blvd., route U. S. 1. The Baltimore-Washington Parkway also passes through the Center further east, with access roads at the East-West Highway. The University of Maryland, at College Park, Md., is in the vicinity. The area of the Center is divided into experimental pastures, ranges, orchards, gardens, fields for cultivated crops, timber stands, and soil-treatment plots. There are 950 buildings equipped to meet the respective needs of the many and various types of research, and to provide office and laboratory space for approximately 2,200 workers, approximately half of them scientists. Among the Center's buildings are 58 laboratories, 31 greenhouses, 161 barns and storage buildings, 700 small-animal and poultry houses, and heating, water-treatment and sewage disposal plants. There are nearly 3,000 experimental farm animals, more than 10,000 mature laying and breeding fowls, about 5,500 small animals used in laboratory tests, and a dairy herd of 500 Holsteins and Jerseys.

Charles A. Logan is superintendent, headquarters, Agricultural Research Center, Beltsville, Md.; Frank R. Ellis is administrative officer; Ray A. Lillard, administrative assistant.

BETHESDA

NATIONAL INSTITUTES OF HEALTH, U. S. Public Health Service,

Bethesda, Md.
James A. Shannon, director.

The National Institutes of Health function as the principal research agency of the Public Health Service, U. S. Department of Health, Education & Welfare. Its facilities are centralized on a 300-acre tract at Bethesda, Md., a suburb of Washington, D. C. That location is headquarters for seven national research institutes whose name and the title in each instance indicate their respective fields of research. We identify them briefly in the following:

National Institute of Arthritis & Metabolic Diseases: Floyd S. Daft, director; William G. Baylis, administrative officers; DeWitt Stetten, Jr., M.D., associate director in charge of research; James M. Hundley, M.D., is medical director and chief of laboratory research, also chief of the laboratory of biochemistry and nutrition.

National Cancer Institute: John R. Heller, M.D., director; John M. Hannan, administrative officer; Ralph G. Meader, chief, research grants branch; G. Burroughs Milder, M.D., associate director in charge of research. And there are six laboratories or branches, each having an administrative officer as chief, and designated respec-

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tively as follows: Of biochemistry, of biology, chemical pharmacology, endocrinology, general medicine, pathology.

National Institute of Dental Research: Francis A. Arnold, Jr., D.D.S., director; John E. Fitzgerald, administrative officer.

National Institute of Mental Health: Robert H. Felix, M.D., director; Charles E. Mills, executive officer; Seymour S. Kety, M.D., associate director in charge of research.

National Heart Institute: James Watt, M.D., director; Robert H. Grant, executive officer; Richard C. Arnold, M.D., chief, technical services branch; Robert W. Berliner, M.D., associate director in charge of research.

National Institute of Neurological Diseases and Blindness: Pearce Bailey, M.D., director; Joseph H. McLoughlin, administrative officer; Seymour S. Kety, M.D., chief, laboratory research.

National Institute of Allergy & Infectious Diseases: Victor H. Haas, M.D., director; Kenneth H. Brown, administrative officer; Leonard Karel, chief, extramural programs. This Institute includes what was formerly known as the National Microbiological Institute. Two units are prominent in the present organized set-up, as in the previous. One of them is the Laboratory of Tropical Diseases, of which the Chief is Dr. Willard H. Wright, D.V.M., veterinarian director, Bethesda, Md. The other is the Rocky Mountain Laboratory, Hamilton, Mont., of which the director is Carl L. Larson, M.D., medical director. The Laboratory of Tropical Diseases has branches at Memphis, Tenn., and Columbia, S. C. The Rocky Mountain Laboratory is the subject of a separate reference in these columns, which we show under Hamilton, Mont. It is the largest branch laboratory of the National Institute of Health.

The Clinical Center is a research facility of the National Institute of Health, and it is situated in and is a part of the research center at Bethesda. The director is D. W. Patrick, M.D., medical director; and Richard H. Henschel is executive officer. The Clinical Center occupies a notable structure of 14 stories on an extensive ground area. Its capacity is 500 beds, but about twice as much space is available for laboratories as for patient care. In the one building it provides additional laboratory facilities for research for all seven of the Institutes, extending into nearly all fields of medical science. It operates on a program especially designed for co-ordinated clinical and laboratory research in improved diagnosis, treatment and cure of disease, especially the long-term illnesses.

There are other agencies of the National Institutes of Health which are responsible directly to the director of the latter. Two of them are important from the viewpoint of this summary and they are described to some extent in our general reference to United States government departments, Washington, D. C. Likewise in that reference will be found further explanation of the relation of the National Institutes of Health to the United States Public Health Service and the Department of Health, Education & Welfare.

RIVERDALE

THE McCAMBRIDGE & McCAMERIDGE CO.,

6400 Rhode Island Ave., Riverdale, Md.
J. F. McCambridge, pres. & general manager.
J. F. Garhes, director of Research & development.

Manufacturing chemists, pharmaceuticals. Research and control laboratory related to this production. J. A. McCambridge, pharmaceutical production manager.

MASSACHUSETTS

BOSTON

BIRDS EYE DIVISION, General Foods Corporation

30½ Fish Pier, Boston 10, Mass.

Research laboratory related to mfg. fish products; A. H. Nagel, section head, research & development. Executive offices of the corporation are 250 North St., White Plains, N. Y., to which please refer.

OTIS CLAPP & SON, INC., Research & Standards Division,

344 Newbury St., Boston 15, Mass.

Carlos L. Beals, director of research.

Product development, research and quality control laboratories related to mfg. drugs, cosmetics and pharmaceutical specialties. Includes bacteriology, nutrition, chemistry, physics, pharmacy, electronics. Main office of the company, manufacturing pharmacists, is 439 Boylston St., Boston 16, Mass., Lowell T. Clapp, president.

CHARLES M. COX CO.,

177 Milk St., Boston 9, Mass.

This company's Wirthmore Research Laboratory is 259 Washington St., Malden 48, Mass.; please see that reference.

H. P. HOOD & SONS,

500 Rutherford Ave., Boston 29, Mass.

H. P. Hood, II., general manager.

A. C. Fay, Ph.D., director of laboratories & research.

Control laboratory at this location related to mfg. dairy products. Research and product development laboratory, C. C. Watts, Ph.D., manager, at 56 Rolland St., Boston, Mass.

THE KENDALL COMPANY,

140 Federal St., Boston 10, Mass.

Warner Eustis, director of research.

Research laboratories at several locations, in typical instances related to mfg. surgical fabrics and sutures. A unit of The Kendall Company is Bauer & Black Division, 2500 S. Dearborn St., Chicago 16, Ill., P. F. Ziegler, director of research, to which please refer.

MONSANTO CHEMICAL CO., Inorganic Chemicals Division,

Everett Station, Boston 49, Mass.

E. G. Somogyi, director of research.

Facilities at this location formerly operated as the Merrimac Laboratories of Monsanto Chemical Co., are now headquarters of the Research Department, Inorganic Chemicals Division, and are the principal research laboratories of the Division. Main offices of Monsanto Chemical Co. are 1700 S. Second St., St. Louis 4, Mo., to which please refer.

SKINNER & SHERMAN, INC.,

246 Stuart St., Boston 16, Mass.

Daniel P. Norman, president.

Robert A. Sullivan, laboratory director.

A commercial laboratory with biochemical department. Forensic chemistry, testing to government specifications.

UNITED FRUIT COMPANY,

80 Federal St., Boston 10, Mass.

Dr. Hartley Rowe, vice pres. & director of research.

Laboratory on agricultural research at Pier 3, North River, New York 6, N. Y., to which please refer. Other laboratories are maintained at locations as follows: Tela Railroad Co., La Lima, Honduras, Central America. Compania Bananera de Costa Rica, Coto Research Station, San Jose, Costa Rica. Compania Frutera de Sevilla, Apartado Aereo 541, Santa Marta, Colombia, South America.

UNITED STATES TESTING CO., INC., Boston Research Division

288 A St., Boston 10, Mass.

R. T. McAndrew, manager.

Consulting chemists and chemical engineers; includes research and development of food products and organic chemicals. Central laboratories of United States Testing Co., Inc., are Hoboken, N. J., to which please refer.

DORCHESTER GENERAL FOODS CORPORATION, Walter Baker Chocolate & Cocoa Division,

Pierce Square, Dorchester 24, Mass.

Richard Laster, manager of research.

Research laboratory; activities include product and process improvement, new product development, and basic research. Main offices of General Foods Corporation, 250 North St., White Plains, N. Y., to which please refer.

GLOUCESTER

GORTON-PEW FISHERIES CO., LTD.,

327 Main St., Gloucester, Mass.

Raymond N. Allen, director, biological dept.

Laboratory related to mfg. fish liver oils. Includes vitamin research and control of cod liver oils and other fish liver oils, and nutritional investigations on other products.

LYNN

LYDIA E. PINKHAM MEDICINE CO.,

271 Western Ave., Lynn, Mass.

Calvin L. Butler, chief chemist.

Product development, research and quality control

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aboratories at this location related to mfg. pharmaceuticals. Includes pharmaceutical chemistry, pharmacognosy, pharmacology, bacteriology, toxicology. Assistant chief chemist is Lucille E. Mullen.

MALDEN

CHARLES M. COX CO., Wirthmore Research Laboratory, 259 Washington St., Malden 48, Mass.

Warren S. Baker, director of research.

Research and quality control laboratory at this location related to mfg. Wirthmore poultry, dairy, stock and dog feeds. Richard O. Brooke, Ph.D., chief chemist. Main office of Charles M. Cox Co. is 177 Milk St., Boston 9, Mass.

NATICK

QUARTERMASTER RESEARCH AND DEVELOPMENT COMMAND, United States Army,

Natick, Mass.

Brig. Gen. Charles G. Calloway, Commanding General.

Col. John D. Martz, Jr., Deputy Commander.

This is Quartermaster Research & Development Center, Kansas St., Natick; Dr. A. Stuart Hunter is Scientific Director. Under the direction of the Quartermaster General, the Center prepares plans, programs and policies, and conducts that segment of the Department of Defense research and development program assigned to the Quartermaster Corps to provide the United States armed forces with functionally suitable food, clothing, organizational and personal equipment. The Quartermaster Research and Development Command includes, besides this Center at Natick, the Quartermaster Food & Container Institute for the Armed Forces, Chicago, Ill., to which please refer. Also there is the Quartermaster Research & Development Field Evaluation Agency, Fort Lee, Va.

RUSSELL

WESTFIELD RIVER PAPER CO., INC.

Russell, Mass.

Dr. Ralph T. Nazzaro, vice president, research. Product development, research and quality control laboratory related to mfg. "Glassine" paper for protective packaging of food products. W. J. Brand, asst. director of research. Laboratories also at West Conshohocken, Pa.

STONEHAM

THE E. L. PATCH COMPANY,

38 Montvale Ave., Stoneham 80, Mass.

Fred A. Lawson, pres. & gen. manager.

Robert A. Walsh, research director.

Manufacturing pharmacists. Research and pilot control laboratory. Includes experimental research and development of pharmaceutical agents, formulae and medicinal products; investigation of chemical, physical and biological properties of natural and synthetic drug preparations.

WALTHAM

WALTHAM LABORATORIES, INC.,

817 Moody St., Waltham 54, Mass.

Jack L. Lapuck, chief chemist.

Food sanitation consultants; product development, research and quality control laboratories. This is a division of Waltham Chemical Co., same address, M. A. Bradbury, president.

WOBBURN

GENERAL FOODS CORPORATION, Atlantic Gelatin Division,

Hill St., Woburn, Mass.

Research laboratory related to mfg. food products; H. Rosenthal, director. This is a unit of General Foods Corporation, White Plains, N. Y., to which please refer.

WORCESTER

BREWER & COMPANY, INC., Laboratory Division,

67 Union St., Worcester 8, Mass.

H. D. Brewer, president.

Sidney L. Segel, director of research.

Paul C. Bartow, M.D., medical director.

Research and control laboratory related to mfg. pharmaceuticals. Main office also this address.

BUFFINGTON'S, INC.,

8 Sudbury St., Worcester 8, Mass.

Raymond L. Brault, assistant to the president.

Manufacturing pharmaceutical chemists. Research and control laboratory related to this production.

DAVIS & BENNETT, INC..

194 Front St., Worcester 8, Mass.

Lewis Davis, executive director.

S. Gilbert Davis, Ph.D., laboratory director.

Consulting services. Includes food processing, pharmaceuticals, meat and dairy products, nutrition microbiological assays, water sewage, sanitation.

MICHIGAN

BATTLE CREEK

KELLOGG COMPANY,

Porter & Stiles Sts., Battle Creek, Mich.

J. J. Thompson, Ph.D., vice pres. in charge of food research.

Research and quality control laboratories related to mfg. cereal food products.

POST CEREALS DIVISION, General Foods Corporation.

275 Cliff St., Battle Creek, Mich.

W. F. Massmann, research manager.

Research laboratory related to mfg. food products.

This is a unit of General Foods Corporation, White Plains, N. Y., to which please refer.

DETROIT

BARRY LABORATORIES, INC.,

9100 Kercheval Ave., Detroit 14, Mich.

A. W. Barry, president.

R. H. Hahn, director of mfg.

Related to mfg. allergy products for diagnosis and treatment; glandular, endocrine and pharmaceutical products.

THE DETROIT TESTING LABORATORY, INC.,

554 Bagley Ave., Detroit 26, Mich.

Douglas Dow, president.

Howard A. Boltz, vice pres. & general manager.

General laboratory service for analysis, testing, development and research in organic and inorganic chemistry; also metallurgy, physical testing, etc.; also industrial hygiene. Jacob Patt, head, general chemistry dept.; Gordon C. Harrold, staff consultant, industrial hygiene.

DIFCO LABORATORIES, INC.,

920 Henry St., Detroit 1, Mich.

Harry A. Burnett, president & gen. manager.

H. W. Schoenlein, director, department of bacteriology.

Laboratory related to mfg. biologicals, pharmaceuticals, glandular products, dehydrated culture media, and reagents for microbiological and clinical laboratory procedures.

HYGRADE FOOD PRODUCTS CORPORATION,

2811 Michigan Ave., Detroit 16, Mich.

Hugo Slotkin, president.

This is main office of the company. Meat packing plant of a subsidiary, Kingan, Inc., Indianapolis, Ind., has laboratories in that city; please see our reference.

PARKE, DAVIS & COMPANY, Research Laboratory,

Joseph Campau at the River, Detroit 32, Mich.

Dr. L. A. Sweet, vice pres. & director,

Research Division.

Dr. George Rieveschl, Jr., scientific assistant to the President.

Related to the development of biologicals, glandular products, pharmaceuticals, vitamins and vitamin preparations, antibiotics, synthetic drugs. Dr. Loren M. Long is director of chemical research; Dr. F. D. Stimpert, director of microbiological research; Dr. A. C. Bratton, Jr., director of pharmacological research; Dr. E. C. Vonder Heide, director of clinical investigation. The staff also includes: Dr. R. A. Brown, director of bio-assay division; A. L. Rawlins, director of products development; W. F. Holcomb, manager, research division; Dr. P. E. Thompson, director in parasitological research. A farm of 650 acres, near Detroit, is maintained for purposes of development of biological preparations. Chemical manufacturing laboratories are operated at a location near Holland, Mich., on a site of 30 acres. Control work other than physiological, is handled in a separate department.

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THE REDYNS COMPANY, INC.,
2114 Coplin Ave., Detroit 15, Mich.
William R. Snyder, president.

Manufacturing chemists. A product development and control laboratory is maintained related to mfg. private formula pharmaceuticals and industrial chemical fabrication.

R. P. SCHERER CORPORATION,
9425 Grinnell Ave., Detroit 13, Mich.
Robert P. Scherer, president.
C. M. Van Kirk, executive vice president.
Dr. Sereck H. Fox, vice pres., pharmaceutical research & control.

Engineering development, research and control laboratories related to mfg. food, vitamin and nutrition products, pharmaceuticals, organic chemicals. The manufacturing organization is composed of Gelatin Products Division; Fine Chemicals Division, Dr. G. H. Carlson, vice president; Hypospray Division, Anthony Venditti, chief engineer.

SHERMAN LABORATORIES,
5301 Grandy Ave., Detroit 11, Mich.
A. G. Sherman and Ralph L. Sherman, partners.

Manufacturers of products for the drug and medical profession. Research and control laboratory related to this production. Includes bacteriology, biochemistry, chemistry.

JAMES VERNOR COMPANY,
4501 Woodward Ave., Detroit 1, Mich.
J. S. Richardson, director of quality control.
Product development, research and quality control laboratory related to mfg. "Vernor's" ginger ale. Alton L. Lineweaver, asst. to director of quality control.

FREMONT

GERBER PRODUCTS COMPANY,
Fremont, Mich.
R. B. Wakefield, director of research
Quality control and research laboratory on baby foods at this location; P. G. McGowan, laboratory manager. Quality control laboratories are located also at the company's plant, Rochester, N. Y. Research and control laboratories, respectively, are located also at Oakland, California, to which please refer. At the latter address is W. U. Hudson, vice president, production & research, Gerber Products Co.

HARBOR BEACH

THE HURON MILLING COMPANY,
Harbor Beach, Mich.
R. S. Shumard, director of development.
R. H. Colton, director of research.
Factories at this location mfg. monosodium glutamate, hydrolyzed vegetable proteins, gluten products, meat tenderizers, wheat starches, corn starches, cereal gums and pastes. Product development and control laboratories related to this production. General office of the company, Royal Oak, Mich., to which please refer.



HOLLAND

THE DE PREE COMPANY,
130 Central Ave., Holland, Mich.
W. A. Diekema, president.

Pharmaceutical chemists. Research and control laboratory related to this production. A. M. Hyma, Ph.D., director.

KALAMAZOO

FARM BUREAU SERVICES, INC., Plant Food Division Laboratory,
P. O. Box 148, Kalamazoo, Mich.
Dr. Philip B. Turner, manager, quality control & research.

Product development, research and quality control laboratory at this location, related to mfg. granulated fertilizers; includes physical chemistry and analytical chemistry. Main office of the co-operative, Lansing, Mich.; please see that reference.

THE UPJOHN COMPANY, Research Laboratory,
P. O. Box 831, Kalamazoo, Mich.
Dr. R. S. Schreiber, vice pres. for scientific administration.

The company manufactures glandular products, hormones, antibiotics, pharmaceuticals, vitamin products, etc. The laboratory, a department of the company, located at 301 Henrietta St., is related to this production. D. I. Weisblat is director of chemical research; R. W. Heinle is director of biological research.

LANSING

FARM BUREAU SERVICES, INC.,
4000 N. Grand River Ave., Lansing, Mich.
Product development, research and quality control laboratory related to mfg. granulated fertilizers is located at Kalamazoo, Mich. Please see that reference.

MASON

WYETH LABORATORIES, INC.,
Mason, Ingham County, Mich.
H. F. Seibert, managing director.
R. C. Stribley, chief, product development & production research dept.

Nutritional laboratories at this location; include development, product research and mfg. control. Main offices of Wyeth Laboratories, Inc., are mailing address Philadelphia 1, Pa., to which please refer.

MIDLAND

THE DOW CHEMICAL COMPANY,
Midland, Mich.
Dr. Leland I. Doan, president.
Dr. R. H. Boundy, vice pres. & director of research.

Research of the company is carried on by the firm's three major divisions, the Midland (Michigan), the Texas and the Western divisions, as well as by its subsidiaries and associated companies throughout the United States and in Canada. Laboratory facilities at Midland are extensive and outstanding in various fields of chemistry and related sciences. Likewise in the agricultural sciences, the company has, in all three of the divisions mentioned above, extensive facilities for research in the produc-



- At left.

Laboratory of the Biochemical Research Department, Dow Chemical Co., Midland, Mich. It is a one-story building, almost square, covering roughly the area of a football field. In spite of its size, the building has but one window, here shown, a picture window in the lobby. The interior affords complete control of light, temperature & ventilation. The architect was Alden B. Dow, a son of Dr. Herbert H. Dow, the company's founder.

ion and use of agricultural chemicals. The newest laboratory in The Dow Chemical Co.'s expanding research program is that for the biochemical research department, Dr. Don D. Irish, director of biochemical research. This department, at Midland, Mich., is now housed in a new structure which was officially opened in March, 1956. It represents an investment of \$1,100,000, and it is initially occupied by 26 laboratories. The staff includes 64 men and women.

MUSKEGON

INDUSTRIAL RESEARCH LABORATORIES,
5683 Harding (East), Muskegon, Mich.

F. Peter Dengler, research director.

General consulting chemists. Includes industrial health problems and air and water pollution control.

ROYAL OAK

THE HURON MILLING COMPANY,
3101 N. Woodward Ave., Royal Oak, Mich.

This is general office of the company. Product development, research and control laboratories in factories at Harbor Beach, Mich., to which please refer.

SAINT LOUIS

MICHIGAN CHEMICAL CORPORATION,
500 N. Benkson St., Saint Louis, Mich.

Theodore Marvin, president.

Fred De Maestri, vice president.

Dr. Dwight Williams, director of research.

Laboratory and pilot plant facilities at this location include research, product and process development, magnesia, calcium chloride, bromine, organic and inorganic bromine compounds, pharmaceutical intermediates and insecticides.

WYANDOTTE

WYANDOTTE CHEMICALS CORPORATION, Research & Engineering Division,

Biddle Ave., Wyandotte, Mich.

Robert B. Semple, president.

Frank B. Wolcott, vice pres. & general manager, research and engineering.

J. William Zabor, director of research.

John H. Reifel, director of development.

Arthur C. Schubring, director of engineering.

Dr. W. F. Waldeck, director of research.

The corporation maintains general research facilities for development of organic intermediates, germicides, surface active agents, solvents, and related products, for plastics and resins and for inorganic chemicals, including special pigments and fillers for rubber, paper, plastics and paint. In addition specialized facilities are available for research and development in the laundry, textile and food industries, for building maintenance, sanitation, and for bacteriological and industrial cleaning fields. Dr. Lester C. Lunsted is director of chemical research; Maurice G. Kramer, director of application research; Dr. H. P. Trix, manager of market development; Dr. Lucas P. Kyrides, staff consultant.

ZEELAND

SUMNER CHEMICAL COMPANY, INC.,
Zeeland, Mich.

Dr. W. J. Croxall, director of research.

Product development and research laboratories, also pilot plant, at this location. Dr. A. P. Centolella, asst. director of research is in charge. Other laboratories of the company at Elkhart, Indiana, to which please refer.

MINNESOTA

BAUDETTE

ROWELL LABORATORIES, INC.,
Baudette, Minn.

T. H. Rowell, president.

T. H. Rowell, Jr., exec. vice president.

B. A. Johnson, secretary.

Dr. R. M. Appel, research director.

Manufacturing chemists; pharmaceutical products, tablets, capsules and ointment formulations. Product development, research and control laboratory related to this production.

DULUTH

CHUN KING SALES, INC.,
P. O. Box 206, Duluth 1, Minn.

Nathan G. Fox, director of research.

Product development, research and quality control laboratory related to mfg. oriental foods, chop suey, chow mein, etc. Includes chemistry, physics, biology. Arnold M. Munter, associate director of research.

GREEN GIANT COMPANY,

Le Sueur, Minn.

Dr. E. C. Ritchell, director of research & quality control.

Laboratory related to mfg. food products, canned peas, corn, asparagus; includes bacteriological, biochemical, chemical.

MINNEAPOLIS

ARCHER DANIELS MIDLAND COMPANY, Research Laboratory,
3100 38th Ave., South, P. O. Box 839,

Minneapolis, Minn.

J. W. Hayward, Ph.D., director of nutritional research.

J. C. Konen, M.S., vice pres. in charge of research.

Research on fats and oils, particularly drying oils, and on oil seed meals particularly linseed and soybean, for both industrial and nutritional uses. Also nutritional studies on mixed feeds; bacteriological and biochemical studies; work on industrial and nutritional uses of cereals and proteins; pilot plant development. Main offices of the company, also P. O. Box 839, are at 700 Investors Bldg., Minneapolis.

CARGILL, INC., General Research,

200 Grain Exchange Bldg., Minneapolis 15, Minn.

J. Wesley Nelson, Ph.D., research director.

Includes chemical research and control; also Cargill Lab. 1, Arvid J. Kuutti, in charge, Janet Barr, biochemist. Nutrena Mills, Inc., Division of Cargill, Inc., has Nutrena Research Center, Pleasant Hill, Mo., to which please refer.

COMMANDER-LARABEE MILLING CO.

Investors Bldg., Minneapolis, Minn.

W. L. Rainey, vice president & technical director.

Research and control laboratory related to flour milling.

THE CREAMETTE COMPANY,

428 N. First St., Minneapolis 1, Minn.

J. H. Linstroth, production manager.

Dr. Eugene Karpik, director of research & quality control.

Control laboratory in plant at this location related to mfg. macaroni, "Creamettes", "Mother's".

THE FLEISCHMANN MALTING CO.,

1717 N. E. Second St., Minneapolis 13, Minn.

Laboratory related to mfg. malt; Dr. W. J. Olson, director. Also operated under Dr. Olson's supervision is the company's laboratory of the same type at 2143 West 51st Place, Chicago 9, Ill., to which please refer. Both are subsidiaries of Standard Brands, Inc., 595 Madison Ave., New York 22, N. Y.

GENERAL MILLS, INC.,

400 S. Second Ave., Minneapolis 1, Minn.

This is general offices of the company. We make separate reference to the central research laboratories at 2010 E. Hennepin Ave., Minneapolis. Please refer also to the following at the locations indicated: Sperry Operations, research & control laboratories, San Francisco, Calif.; Feed Division research & control laboratory, Rossford, Ohio; Larro Research Farm, Indianola, Iowa.

GENERAL MILLS, INC., Research Laboratories,

2010 E. Hennepin Ave., Minneapolis 13, Minn.

A. D. Hyde, vice pres. in charge of research.

Dr. R. H. Manley, managing director.

Dr. John S. Andrews, director of food research.

At this location is the central research laboratory for General Mills' nation-wide operations. Please see also our reference to this company's general office, 400 S. Second Ave., Minneapolis 1, Minn.

GOODWIN JOSS LABORATORIES,

529 Seventh St., South, Minneapolis 15, Minn.

Goodwin Joss, director and proprietor.

Consulting laboratory, includes research, control of mfg. toxicological; biological, bacteriological, chemical.

36 MINN.

HILLTOP LABORATORIES, INC.,
718 N. Washington Ave., Minneapolis 1, Minn.
Fred H. Moore, president.
A. N. Korsunsky, D.V.M., poultry pathologist
& director of research.

Product development, research and quality control laboratory related to mfg. poultry and livestock medicinals. Goodwin Joss, chief chemist.

INTERNATIONAL MILLING COMPANY,
800 McKnight Bldg., Minneapolis 1, Minn.

This is general offices of the company. We show separately the main research and control laboratory at 1423 S. Fourth St., Minneapolis, Minn., to which please refer.

INTERNATIONAL MILLING COMPANY, Research & Control Laboratory,

1423 S. Fourth St., Minneapolis, Minn.
Dr. H. H. Schopmeyer, director of research.
H. R. Wick, chief control chemist.

The company's main research and control laboratory at this location; related to flour milling and allied products. In addition there are control laboratories at each mill. Gerhardt Wiens is chief control chemist, Southwest Division, 1725 Armour Road, North Kansas City, Mo. Also J. H. Monson is chief control chemist, Canadian Division, Moose Jaw, Sask., with laboratories at four mills. General offices of International Milling Co. are 800 McKnight Bldg., Minneapolis 1, Minn.

MCLAUGHLIN GORMLEY KING CO.,
1715 S. E. Fifth St., Minneapolis 14, Minn.
Dr. J. B. Moore, vice pres., research and product development.

D. B. McClellan, chief chemist.

Research, quality control and product development laboratories related to mfg. agricultural chemicals.

THE MARKLEY LABORATORIES,
312 South Fourth Ave., Minneapolis 15, Minn.
Max C. Markley, director.

Consulting laboratory on chemistry and chemical engineering as related to agriculture and agricultural products. Includes research and quality control.

NUTRENA MILLS, INC., Division of Cargill, Inc.,
200 Grain Exchange Bldg., Minneapolis 15, Mo.
J. Wesley Nelson, Ph.D., research director.

Please see our reference to Cargill, Inc., Minneapolis, Minn., for the Division's research and control in this city. Quality control laboratories at each of ten feed plants. The Division's Nutrena Research Center is at Pleasant Hill, Mo., to which please refer.

PILLSBURY MILLS, INC., Research & Development Laboratories, 208 Third Ave., S.E., Minneapolis 14, Minn.
Paige Lehman, vice president.
Walter T. Blake, general manager, research & development.

Dr. R. A. Larsen, manager of research.

D. L. Carpenter, manager of product development.

Laboratories on basic research and grocery and institutional product development. Include food, process, chemical and physical research, flour research, product and process development. Quality control laboratory of this company at Hamilton, Ohio, also other laboratories at Clinton, Iowa, Springfield, Ill., and Louisville, Ky., to all of which please refer. General offices of Pillsbury Mills, Inc., are Pillsbury Bldg., Minneapolis 2, Minn.

RUSSELL-MILLER MILLING CO.,
860 Grain Exchange, Minneapolis 15, Minn.
William M. Steinke, executive vice president.
B. Sullivan, vice president, director of research.

Research and control laboratory related to grain milling, flour and commercial mixed feeds. Branch laboratories are maintained at the following locations: Buffalo, N. Y.; Billings, Mont.; Dallas, Texas; Alton, Ill.; Grand Forks, N. D.

ROCHESTER

ROCHESTER DAIRY COOPERATIVE,
Rochester, Minn.
K. M. Madison, director of laboratory.
The cooperative produces some 35 general dairy items,

including dry whole milk and dry ice cream powder. Research and control laboratory related to this production. Applied research is directed toward improvement of present products and initiating new ones. Control, mostly bacteriological and chemical, is confined to raw materials and processing and final checking of all products.

ST. PAUL

BEEBE LABORATORIES, INC.,
E. Larpenteur Ave. & Beebe Road, St. Paul 9, Minn.

F. H. Moore, president.
Laboratory related to mfg. animal biologicals and veterinary pharmaceuticals.

DAIRY PRODUCTS LABORATORIES,

2244 Carter Ave., St. Paul 8, Minn.

Henry A. Healy, manager & owner.

Consulting laboratory specializing in dairy products analysis, including routine plate and microscopic count work, complete milk powder analysis, cheese moistures, ice cream analysis, water analysis and plant and farm inspection service.

RAYETTE, INC.

261 East 5th St., St. Paul 1, Minn.

Ross C. Whitman, vice pres. in charge of chemical operations.

W. G. Reveley, director of research.

Product development, research and quality control laboratory related to mfg. cosmetics, surfactants, emulsifiers and other chemicals. Includes bacteriology, chemistry, toxicology and chemical engineering.

WINONA

FROEDTERT MALTING CORPORATION,
Winona, Minn.

Branch laboratory at this location; control of mfg. and research. Main office of the corporation, P. O. Box 712, Milwaukee 1, Wis., to which please refer.

MISSOURI

CARTHAGE

NATIONAL BISCUIT COMPANY, Carthage Mill,
Carthage, Mo.

C. Bowersox, chief chemist.

Control laboratory for flour mill products at this location. Main office of the company is 449 West 14th St., New York 14, N. Y. to which please refer.

CLAYTON

MONSANTO CHEMICAL CO., Organic Chemicals Division,
830 N. Lindbergh, Clayton 24, Mo.

Located on the site of the new headquarters of the company, this laboratory conducts application research in the fields of microbiology, entomology, parasitology, plant physiology, plant pathology, plant nutrition, soil chemistry, and physics and biochemistry. O. DeGarmo is assistant director of research. Please see also our reference to Monsanto Chemical Co., St. Louis, Mo.

JOPLIN

THE BRUCE WILLIAMS LABORATORIES,
618-624 Joplin St., Joplin, Mo.

Bruce Williams, manager.

Commercial consulting laboratory, includes also research and control of mfg.; bacteriology and chemistry. Branch laboratories are at St. Louis, Mo., industrial; at Picher, Okla., zinc mining and metallurgy, and at Batesville, Ark.

KANSAS CITY

ALLIED LABORATORIES, INC.,

406 West 34th St., Kansas City 10, Mo.

Kenneth F. Valentine, exec. vice president.

Manufacturers of biological products, pharmaceuticals, antibiotics, veterinary biologicals. The affiliated unit to each of which please refer, are: Pitman-Moore Company, Indianapolis, Ind.; Sioux City Serum Co., Sioux City, Iowa; Sioux Falls Serum Co., Sioux Falls, S. Dak.

ASHE LOCKHART, INC.,

800 Woodsweather Road, Kansas City 6, Mo.

Glen L. Dunlap, D.V.M., vice pres. in charge

of production & research.

Research and control laboratory related to mfg. biolog-

- At right →

Midwest Research Institute, Kansas City, Mo., is now housed in a new structure of modern design, and said to be a model of efficiency. The frontage is on Volker Boulevard and a spacious parking area is entered from the side and rear. An independent but adjacent institution, the Linda Hall Library of Science & Technology augments the substantial library facilities of the Institute.



cals, serums, vaccines, also consultation. This is a subsidiary of Cutter Laboratories, Berkeley, Calif., to which please refer.

CEROPHYL LABORATORIES, INC.,
1125 Board of Trade Bldg., Kansas City 5, Mo.
Loren V. Burns, director of research.
Research laboratory related to mfg. food and feed products, nutrition products, animal hormone products.

COOK CHEMICAL CO.,
P. O. Box 78, Kansas City 41, Mo.
Irvin M. Lefton, director of research.
Product development, research and quality control laboratory related to mfg. "Real-Kill" insecticide, "Real-Kleen" dry cleaner. Includes chemistry, physics, biology, entomology.

DOTY TECHNICAL LABORATORIES,
8 West 9th St., Kansas City 42, Mo.
James M. Doty, owner and director.

Consulting laboratory on food and feed analysis and research. Includes product development and quality control. On the staff, W. O. Edmonds. Branch laboratory under the same name, located at Omaha, Neb., to which please refer.

GENERAL TESTING LABORATORIES,
1519 Walnut St., Kansas City 8, Mo.
Ben Poisner, manager.

Consulting laboratory includes food products, pharmaceuticals, organic chemicals, also research and control of mfg.

HAVER - GLOVER LABORATORIES, INC.,
1915 Broadway, Kansas City 41, Mo.
Rudolph Seiden, vice pres. in charge of production & research.
Manufacturer, veterinary pharmaceuticals; laboratory related to this production. This is a subsidiary of Cutter Laboratories, Berkeley, Calif., to which please refer.

JENSEN-SALSBERRY LABORATORIES, INC.,
P. O. Box 167, Kansas City 41, Mo.
Charles M. McCallister, president & general manager.
Specializes in production of a complete line of veterinary anti-serums, antitoxins, vaccines and virus. Research and control laboratories related to these items. This is a subsidiary of Vick Chemical Co.; please see that reference, 122 East 42nd St., New York 17, N. Y.

KANSAS CITY BACTERIOLOGICAL LABORATORIES,
1318 Harrison St., Kansas City 6, Mo.
R. A. Posch, director & owner.
Consulting laboratory, includes research, control of mfg.; bacteriological, biochemical, chemical.

MIDWEST RESEARCH INSTITUTE,
425 Volker Blvd., Kansas City 10, Mo.
Dr. Charles N. Kimball, president.
Dr. M. H. Thornton, technical director.

This is a privately endowed, non-profit, scientific research organization, established in 1943 by business men in the Middle West to provide research facilities for industrial, commercial and agricultural interests. It has a full-time staff of 250 people, of whom 190 are technically trained. Officers in addition to Dr. Kimball are: Leon T. Swan, vice pres. & treasurer; S. C. Lechtman, secretary. There are five major divisions: Chemistry, Dr. John T. Goodwin, manager; chemical engineering, W. W. Niven, manager; engineering, F. N. Stephens, manager; physics, Dr. S. L. Levy, manager; and industrial economics. The Institute occupies a new building of 80,000 square feet of space. In its ten years of operation it has completed about 1,600 different research projects for 700 sponsoring organizations.

PEERLESS SERUM CO.,
1336 Truman Road, Kansas City 6, Mo.
Nick Yovetich, laboratory director.
Manufacturer of veterinary pharmaceuticals. Laboratory includes product development, research and quality control.

PETERS SERUM COMPANY LABORATORIES,
815 McGee St., Kansas City 6, Mo.
W. G. Peters, president.
William M. Peters, vice president.
Manufacturers, animal serums, vaccines; veterinary preparations. Laboratories related to this production.

I. D. RUSSELL COMPANY LABORATORIES,
2463 Harrison St., Kansas City 10, Mo.
Mrs. I. D. Russell, president.
Dr. Dan B. Russell, director, research & service.
Dr. K. Fiesselman, director, biologic laboratory.

Manufacturers bacterins, antigens and vaccines for poultry. Laboratories related to this production, also diagnosis laboratory for poultry diseases.

SPENCER CHEMICAL COMPANY,
610 Dwight Bldg., Kansas City 5, Mo.
John R. Brown, Jr., general manager, research & development.
Research laboratory of this company at Pittsburg, Kans.; please see that reference. Plastics laboratory is in Kansas City, Mo.

STALEY MILLING CO.,
1717 Armour Road, Kansas City 16, Mo.
Elmer Modeer, laboratory director.
Manufacturer of formula feeds, dry corn mill products. Laboratory includes product development, research, quality control.

STANDARD BRANDS, INC., Frozen Products Division,
1522 Walnut St., Kansas City, Mo.
Laboratory concerned with research and control on

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processing and packing of nut meats, frozen fruits and frozen eggs. W. H. Tonkin, director. This is a division of Standard Brands, Inc., 595 Madison Ave., New York 22, N. Y., to which please refer.

THOMPSON-HAYWARD CHEMICAL CO.,
2915 Southwest Blvd., Kansas City 8, Mo.
L. S. DeAtley, vice pres., research, development & production.

Edwin T. Upton, chief chemist.

Manufacturer of agricultural and industrial chemical specialties. Laboratory related to this production includes product development, research and quality control. Main office is 27 Greystone, Kansas City, Kans. Laboratory also in plant at New Orleans, La.

PLEASANT HILL

NUTRENA MILLS, INC., Nutrena Research Center,
Pleasant Hill, Mo.

C. H. North, manager.

Manufacturers of Nutrena feeds. Laboratories at this location include product development, biological research and quality control. J. C. Hamilton, product improvement manager. Nutrena Mills, Inc., is a Division of Cargill, Inc., 200 Grain Exchange Bldg., Minneapolis 15, Minn.; J. Wesley Nelson, Ph.D., research director. Please see that reference.

ST. LOUIS

ALOE SCIENTIFIC, Division of The A. S. Aloe Company,
5655 Kingsbury, St. Louis 12, Mo.
H. L. Ettman, vice president, Laboratory Division.

Development laboratory related to mfg. and merchandising biological and clinical laboratory apparatus and chemicals.

ANHEUSER-BUSCH, INC.,
721 Pestalozzi St., St. Louis 18, Mo.
R. J. Summer, director, central research dept.
J. E. McClary, brewery research director.

Laboratory related to mfg. beer, corn products, yeast, yeast derivatives and malt products.

DEVELOPMENT RESEARCH, INC.,
4205 Forest Park Blvd.,
St. Louis 8, Mo.

This is an affiliated facility of Reddi-wip, Inc., Los Angeles, Calif., to which please refer. Ed. Golstein, in charge of development research laboratory.

FALSTAFF BREWING CORPORATION,
3617 Olive St., St. Louis 8, Mo.
Ulysses C. Gramsch, chief chemist.

Research and control laboratory related to mfg. beverages and yeast products.

FERMENTATION LABORATORIES,
4003-5 Westminster Place, St. Louis 8, Mo.
Frank A. Roth, president.
J. Adolph Merten, vice pres. & technical director.

Consulting laboratory related to the fermentation industries, mfg. food products, cultures, nutrition products, etc. Includes research, control of mfg.; biological, bacteriological, chemical.

GRADWOHL LABORATORIES,
3514 Lucas Ave., St. Louis 3, Mo.
R. B. H. Gradwohl, M.D., director.

Clinical and consulting laboratory, also for mfg. reagents, especially blood typing; also technicians' school.

KREY PACKING CO.,
2100 Bremen Ave., St. Louis 7, Mo.
Paul P. Aldrich, chief chemist.

Laboratory concerned with research and process control in connection with the processing of meats and animal by-products.

DR. L. D. LeGEAR MEDICINE CO.,
4161 Beck Ave., St. Louis 16, Mo.
Dr. D. H. LeGear, president.

Manufacturer of livestock, poultry and dog remedies.

Laboratory includes veterinary science, animal therapy and nutrition, biochemistry. Dr. H. B. Ulmer, director of research; Dr. H. E. Moorman, director of product development; Dr. J. F. Olney, director veterinary service.

MONSANTO CHEMICAL COMPANY,

1700 S. Second St., St. Louis 4, Mo.

Carroll A. Hochwalt, vice president in charge

of research, development & engineering.

H. K. Nason, vice pres. & general manager,

Research & Engineering Division.

Willis M. Cooper, assistant gen. manager,

Research & Engineering Division.

A portion of Monsanto's comprehensive and extended research activities is embraced within the Inorganic Chemicals Division, which has Research Department laboratories at Everett Station, Boston 49, Mass. This Division also has product development, research and engineering laboratories at Dayton, Ohio. We make a separate reference to Monsanto Chemical Company at both of these locations. Offices of the Inorganic Chemicals Division are Terminal Bldg., St. Louis, Mo. Also we make separate reference to laboratories of the Organic Chemicals Division at the address above, and at Clayton, Mo., and Nitro, W. Va. Other laboratory research centers of the nation-wide organization of Monsanto Chemical Co., to mention only a few of them, more or less at random are as follows: Mound Laboratories, Miamisburg, Ohio, Edward G. McCarthy, director, operated for the U. S. Atomic Energy Commission; also laboratories of the Plastics Division, at Texas City, Texas, and a new plastics research laboratory at Springfield, Mass. In addition to all this, construction is under way in the early stages, of an extensive executive headquarters and research center at Creve Coeur, in the suburban area of St. Louis, Mo. At this location a site of 252 acres is available, and the plans contemplate occupancy in late 1957. Subsidiaries of Monsanto Chemical Co., are Mobay Chemical Co., 1901 S. Second St., St. Louis, Mo., and The Chemstrand Corporation, Decatur, Ala.

MONSANTO CHEMICAL CO., Organic Chemicals Division,

1700 S. Second St., St. Louis 4, Mo.

J. H. Lum, manager of research & development.

F. B. Zienty, director of research.

Principal research laboratories of the Organic Division. Synthetic, application, and formulation research on agricultural pesticides, nutrition, bacteriostats, and wood preservatives is conducted at this laboratory. Additional major fields include pharmaceutical products, flavoring and condiments, functional fluids, paper chemicals, plasticizers and resins, oil additives, and intermediates. Please see also another reference to Monsanto Chemical Co. at this address, which describes the over all position of the company as to research. Other laboratories of the Organic Chemicals Division are shown herein at Clayton, Mo., and Nitro, W. Va.

PET MILK COMPANY,

Arcade Bldg., St. Louis, Mo.

Research and control laboratories located at Greenville, Ill., to which please refer. Branch laboratories for control of mfg. at 28 plants, each staffed with chemist and bacteriologist.

RALSTON PURINA COMPANY,

835 South 8th St., St. Louis 2, Mo.

Dr. Roland M. Bethke, vice pres. & director of research.

Dr. H. L. Wilcke, assistant director of research.

Laboratory related to mfg. food products, also feed for animals and poultry; sanitation products and farm supplies.

SCIENTIFIC ASSOCIATES,

3755 Forest Park Blvd., St. Louis 8, Mo.

Leonard C. Tobin, president.

Consulting laboratory on food, also pharmaceutical research and development.

SIGMA CHEMICAL CO.,

4648 Easton Ave., St. Louis 13, Mo.

Dan Broida, president.

At this location, laboratory related to production of biochemicals.

JAMES VARLEY & SONS, INC.,
1200 Switzer Ave., St. Louis 15, Mo.
Jack C. Varley, president.
Dr. George F. Reddish, consultant.

Manufacturers of disinfectants, sanitizers, antiseptics. Product development, research and quality control laboratory related to this production. On the staff: Walter Zachritz, Virginia Costello.

WESTAL, INCORPORATED,
4963 Manchester Ave., St. Louis 10, Mo.
Adair Baker, vice pres., mfg. & research.
Dr. Cyril D. Wilson, chemical director.

Product development, research and quality control laboratory related to mfg. emulsion floor coatings, detergents and germicides. Includes organic chemistry, emulsion technology, bacteriology.

SOUTH ST. JOSEPH

ANCHOR SERUM COMPANY,
Exchange Bldg., South St. Joseph, Mo.
True Davis, president.
Dr. F. M. Murdock, exec. vice pres., production & research.
John Danaher, secretary.

Research, consulting and control laboratory related to the production of anti-hog serum, modified live-virus hog cholera vaccines, biologics for small animals, pharmaceuticals used in veterinary medicine, bacterins and other animal biologics. Also on the staff: H. B. Martin, associate production; Dr. J. B. Pooley, associate production & research.

SPRINGFIELD

HOFFMAN-TAFF, INC.,
West Bennett Street Road, Springfield, Mo.
James E. Rundell, director of research & development.
Roland Neal, Ph.D., assoc. director of research.

Product development, research and quality control laboratory related to mfg. animal nutrition products, vitamin products.

WEST PLAINS

WILKE LABORATORIES,
West Plains, Mo.
T. E. Wilke, D.V.S., director & manager.
Related to the production of anti-hog cholera serum, hog cholera virus, and about 100 veterinary pharmaceutical specialties.

MONTANA

HAMILTON

ROCKY MOUNTAIN LABORATORY, U. S. Public Health Service, Hamilton, Mont.
Carl L. Larson, M.D., director.
Cornelius B. Philip, principal medical entomologist, assistant director.

This is one of four major field laboratories of the Public Health Service, U. S. Department of Health, Education & Welfare. It operates under the National Institute of Allergy & Infectious Diseases, of the National Institutes of Health, Bethesda, Md. The basic lines of work of the Rocky Mountain Laboratory are: Research studies on diseases in nature communicable to man; viral diseases, including the encephalitides and poliomyelitis; medical entomology; allergy, bio-physics; biochemistry; and community health studies. The laboratory is described as the largest branch laboratory of the National Institutes of Health. Please see also our general reference to United States government departments, Washington, D.C.

NEBRASKA

LINCOLN

HARRIS LABORATORIES,
816 P St., Lincoln 8, Neb.
Lewis E. Harris, director.

Chemists, bacteriologists, engineers. Consulting laboratory, includes foods, pharmaceuticals, agricultural chemicals, water, cosmetics.

SMITH-DORSEY, Division of The Wander Co.,
Lincoln 1, Neb.
F. S. Bukey, director of pharmaceutical research.
Manufacturers of pharmaceuticals; laboratory related to that production. Howard Hopkins, associate director.

BARTON MILLS, INC.,

3002 F St., Omaha 7, Neb.
At this location, Alfalfa Processors Laboratory, related to mfg. dehydrated alfalfa meal, hog feeds, poultry feeds. Includes product development, research and quality control; chemical analyses, semi-commercial, of feeds and feed products. Joseph N. Schmitt, chief chemist.

CORN STATES LABORATORIES, INC.,
1124 Harney St., Omaha 8, Neb.

G. H. Williams, president.
L. H. Ouren, secretary.
Dr. M. K. Jarvis, laboratory director.
Research and control laboratory related to mfg. animal biologicals.

THE CUDAHY PACKING CO., Cudahy Laboratories Division,
33rd & O Sts., Omaha 7, Neb.

L. F. Long, president.
W. F. Douglass, director of laboratories.
H. J. Anderson, director of pharmaceutical research & development.

Includes research, development and control of mfg. on meat and meat products, fats and oils, glue, animal feed, canning; research and production on pharmaceuticals and veterinary specialties of animal origin. Supervisor, G. Robert; manager, J. E. Jackson.

DAIRY PRODUCTS LABORATORY,

1002 South 24th St., Omaha 2, Neb.
Arell J. Wasson, director and owner.

Consulting laboratory, includes chemical and bacteriological analyses, research, product development, quality control. On the staff: Margaret Wright, analyst; Ed. R. Weigt, quality control.

DOTY TECHNICAL LABORATORIES,

828 Omaha Grain Exchange Bldg., Omaha, Neb.
E. J. Rosse, manager.

Consulting laboratory on food and feed analysis and research. Branch of laboratory of the same name, Kansas City, Mo., to which please refer.

FAIRMONT FOODS CO.,

3201 Farnam St., Omaha 1, Neb.
M. M. Simpson, quality control manager.
Control laboratory at this location related to mfg. food products.

THE GLAND-O-LAC COMPANY,

1818 Leavenworth St., Omaha 1, Neb.
S. A. Rice, director and partner.

Research and control laboratory related to mfg. veterinary biologics, pharmaceuticals, etc.

KLUSMIRE BIOLOGIC LABORATORIES,

7001 Bellevue Blvd., Omaha 7, Neb.
Dr. F. W. Klusmire, director.

Laboratory related to the production of veterinary bacterins and vaccines.

NEBRASKA CONSOLIDATED MILLS CO.,

314 South 19th St., Omaha 2, Neb.
Arlee A. Andre, vice pres. & director of research.

Product development, research and quality control laboratory related to mfg. prepared cake mixes. Laboratory also in plant at Decatur, Ala.

OMAHA TESTING LABORATORIES,

511 South 20th St., Omaha 2, Neb.
J. R. Smith, director and chief chemist.

Consulting services, inspection; laboratory includes meats, dairy products, food products.

C. A. SWANSON & SONS,

1202 Douglas St., Omaha 8, Neb.
Millard F. Gunderson, director of research and quality control.
Laboratories related to mfg. poultry and egg products,

40 NEB.

dairy products, margarine, butter, animal feeds. Harriet L. Page, supervisor, laboratory section. Control laboratories in other plants.

NEW HAMPSHIRE

CONCORD

MERRIMACK FARMERS' EXCHANGE, INC.,
10 Pleasant St. Extension, Concord, N. H.
R. W. Peaslee, general manager.

Product development and quality control laboratory related to mfg. poultry and livestock feed. Paul N. Scripture, chemist.

NEW JERSEY

BAYONNE

THE BAKER CASTOR OIL CO.,
40 Avenue A, Bayonne, N. J.
Don S. Bolley, technical director.
M. Kent Smith, director of commercial chemical development.

Principally mfg. castor oil and castor oil derivatives. Laboratory at this location related to this production. General offices of the company, 120 Broadway, New York 5, N. Y.

THE BEST FOODS, INC., Research Laboratories,
99 Avenue A, Bayonne, N. J.
H. W. Vahlteich, Ph.D., vice pres. in charge of research and quality control.

Devoted to basic and applied research in the development of new products and improvement of existing items; emphasis on margarine, mayonnaise, salad dressings, shortenings, frying oils, coating fats and peanut butter. Quality control and technical service laboratories also at this location. Main office of the company, 1 East 43rd St., New York 17, N. Y., to which please refer.

NAVAL SUPPLY RESEARCH & DEVELOPMENT FACILITY, Bureau of Supplies & Accounts, Bayonne, N. J.

Reference to this Facility, including the Commissary Research Division, is included in our general reference to U. S. government departments, Washington, D. C., to which please refer.

BELLEVILLE

NATIONAL YEAST CORPORATION,
Mill St., Belleville 9, N. J.
S. C. Lutz, vice pres. in charge of production.
M. W. Mead, director of laboratories.

Research and control laboratory at this location related to mfg. bakers' yeast, yeast products. Includes bacteriology, biochemistry, chemistry. Branch laboratory in plant at Crystal Lake, Ill.

WALLACE & TIERNAN, INCORPORATED,
25 Main St., Belleville 9, N. J.
F. G. Merckel, president.
R. M. Jackson, exec. vice president & treas.
Henry C. Marks, director of research.

Research, product development and control laboratories related to mfg. organic chemicals, ethical pharmaceuticals, food products, etc. The company now operates in several Divisions as a result of a series of recent acquisitions and mergers. These include: Harchem Division, E. H. Blumen, vice pres.; Maltbie Laboratories Division, H. W. Crogan, vice pres.; Lucidol Division, Dr. F. Visser't Hooft, vice pres.

BERKELEY HEIGHTS

REHEIS COMPANY, INC.,
235 Snyder Ave., Berkeley Heights, N. J.
Thomas Govett, technical director.

Manufacturers of fine chemicals and pharmaceuticals. Product development, research and control laboratory related to this production.

BLOOMFIELD

LEHN & FINK PRODUCTS CORPORATION,
192 Bloomfield Ave., Bloomfield, N. J.
Emil G. Klarmann, D.Sc., vice pres. & manager,
technical services.

Dr. Robert F. Prindle, director of research. Research and control laboratory related to mfg. pharmaceuticals, cosmetics, etc. Plant at this location, also Lincoln, Ill. Main office, 445 Park Ave., New York 22, N. Y., Edward Plaut, president.

PRINCE MATCHABELLI, INC.,

60 West St., Bloomfield, N. J.

Thomas C. Grubb, Ph.D., director of pharmaceutical research.

Research laboratory related to mfg. cosmetics, pharmaceuticals, etc. This is a unit of Vick Chemical Co., 122 East 42nd St., New York 17, N. Y., to which please refer; the laboratories at this location are a part of the facilities of the parent company and its subsidiaries.

SCHERING CORPORATION,

60 Orange St., Bloomfield, N. J.

Robert E. Waterman, vice president.

Research and development laboratories related to pharmaceutical and endocrine preparations. Others on the staff include: Dr. E. B. Hershberg, director of chemical research & development; Dr. S. W. Lee, director of new products research; Dr. Domenick Papa, assistant to the vice president and director of patents.

BOUND BROOK

AMERICAN CYANAMID COMPANY, Bound Brook Research Laboratories,

Bound Brook, N. J.

Dr. J. H. Paden, director of the Bound Brook Research Laboratories.

Dr. M. Scalera, director of research.

The research at this location covers the activities of the Organic Chemicals Division and the Pigments Division. The activities of the Organic Chemicals Division are based fundamentally on the production of synthetic organic chemicals; and among its major product groups are dyes, intermediates, rubber chemicals, coal tar chemicals, explosives, and products for the textile industry. A new research laboratory is under construction to house the entire research activities at this location, which are presently scattered in several other places in the plant area.

BRIDGETON

P. J. RITTER COMPANY,

Quality Lane, Bridgeton, N. J.

Howard R. Lacey, chief chemist.

Manufacturers of processed food products. Product development, research and quality control laboratory related to these products; includes chemistry, food technology, nutrition, biology, bacteriology, engineering. Howard D. Lundgren, chemist, research department; Roy F. Thompson, chemist, quality control department.

CAMDEN

CAMPBELL SOUP COMPANY,

100 Market St., Camden 1, N. J.

P. W. Souder, vice pres., research & development.

G. V. Hallman, asst. to vice pres., research & development.

W. N. Currier, director, product standards.

Dr. S. G. Younkin, director, agricultural research.

Dr. C. H. Krieger, director, basic research.

Laboratories at this location concerned with research on ingredients, product and process development, and quality control of manufactured food products. Others on the staff include: G. D. Boyd, J. J. Spartales, R. A. Miller, managers, product research; Dr. M. F. Gunderson, director, bacteriological research; Dr. G. B. Reynard, divisional plant pathologist & geneticist; Dr. C. H. Moran, asst. divisional soils technologist; C. D. Trombold, director, quality control; Dr. A. D. Bowers, staff technologist.

KIND & KNOX GELATIN CO.,

Head of N. Fifth St., Camden, N. J.

Research and control laboratory related to mfg. food products, medical, photographic and pharmaceutical gelatin. Dr. E. M. Marks, chief chemist.

CLIFTON

SHULTON, INCORPORATED,

697 Route 46, Clifton, N. J.

Stephen P. Joffre, director, organic research & development.

Warren B. Dennis, Jr., head, toiletries and cosmetics research.

Manufacturers of fine chemicals for food processing, flavors, perfumes, pharmaceuticals. Product development, research and quality control laboratory related to this production.

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DELAWANNA

THE GIVAUDAN CORPORATION,

Delawanna, N. J.

M. Luthy, vice pres. in charge of production & research.

Research, production and control laboratories in plant at this location. Organic chemical research in connection with perfumery, flavors, fine organic chemicals, and pharmaceutical intermediates; bactericidal, fungicidal products. Main office of the corporation and affiliated companies, 330 West 42nd St., New York 36, N. Y., to which please refer.

EAST PATERSON

BIOORGANIC LABORATORIES, INC.,

75 Chamberlain Ave., East Paterson, N. J.

N. Sharff, manager.

S. H. Salb, chief chemist.

Related to mfg. glandular products, hormones, enzymes, organic intermediates, special chemicals to private order. Includes research, consulting, control of mfg.

THE GRAND UNION COMPANY,

100 Broadway, East Paterson, N. J.

Samuel I. Omansky, technical director.

Retail supermarket grocery chain. Product development and quality control laboratory includes food chemistry, food technology. Angela M. Filios, director of test kitchen.

EDGEWATER

LEVER BROTHERS COMPANY, Research Center,

45 River Road, Edgewater, N. J.

Dr. L. B. Parsons, vice president in charge, Research & Development Division.

Dr. Willard M. Bright, research & development director.

Manufacturer, soaps, synthetic detergents, toilet goods, edible oil products, natural glycerine. Research and development center at this address is principally a five-story laboratory structure and a two-story pilot plant. The Center, representing an investment of some \$7,000,000, was occupied new in 1952, and at that time it brought together in one location, research activities that had been scattered in various places. Control laboratories also at this location, and in plants at Baltimore, Md.; Cambridge, Mass.; Hammond, Ind.; Clearing, Chicago, Ill.; St. Louis, Mo., and Los Angeles, Calif. General offices of the company are at 390 Park Ave., New York 22, N. Y.

SPENCER KELLOGG & SONS, INC., Edgewater, N. J., Plant, Mail address, P. O. Box 651, Hoboken, N. J.

B. F. Wood, manager.

Laboratory at this location related to mfg. shortenings and edible oils; C. W. Brandt, in charge. Please see also our reference to main office of the company, 98 Delaware Ave., Buffalo 5, N. Y.

ELIZABETH

NUODEX PRODUCTS CO., INC., Division of Heyden Chemical Corporation,

1075 Magnolia Ave., Elizabeth, N. J.

William J. Stewart, director of research & development.

Paul F. Klens, chief, microbiological laboratory.

Research, technical service and control laboratories at this location, related to mfg. fungicides, bactericides, organic chemicals. Main office of Heyden Chemical Corporation, 342 Madison Ave., New York 17, N. Y., to which please refer.

FAIR LAWN

FISHER SCIENTIFIC COMPANY, Chemical Manufacturing Division,

P. O. Box 375, Fair Lawn, N. J.

Edwin A. Wynne, director, research & development.

Product development, research and control laboratories related to mfg. reagent grade chemicals for analytical use. On the staff: Gloria C. Lindstrom, analytical; Gaston L. Pillori, quality control. Main office of Fisher Scientific Co. is 717 Forbes St., Pittsburgh 19, Pa., J. Fawcett, director of development.

GARFIELD

HEYDEN CHEMICAL CORPORATION,

290 River Road, Garfield, N. J.

D. X. Klein, manager of research.

At this location, product development and research laboratory related to mfg. organic intermediates; Dr.

Robert H. Barth, research supervisor. Main office of Heyden Chemical Corporation is 342 Madison Ave., New York 17, N.Y., Dr. Herman Sokol, vice pres. in charge of research & development. Please see also our reference to Nuodex Products Co., Inc., Elizabeth, N. J., which is a Division of Heyden Chemical Corporation.

GLEN ROCK

THOS. LEEMING & CO., INC. - PACQUIN, INC.,

Harristown Road, Glen Rock, N. J.

Dr. Russell A. Cain, scientific director.

Manufacturers, pharmaceuticals, cosmetics. Product development, research and quality control laboratory related to that production. Nicholas Federici, chief chemist. Main office of these two companies, 155 East 44th St., New York 17, N. Y., to which please refer.

HADDONFIELD

CALIFORNIA SPRAY-CHEMICAL CORPORATION, Field Laboratory Kresson Road, Haddonfield, N. J.

Dr. T. Walter Reed, asst. manager, research & development.

Includes at this location, research and control on insecticides, fungicides. Main office of the company, Richmond, Calif., to which please refer.

HANOVER

SANDOZ PHARMACEUTICALS, Division of Sandoz Chemical Works, Inc., East Hanover Laboratories, P. O. Box 11, Route 10, Hanover, N. J.

Dr. Anton K. Maier, plant manager.

E. Hutton, chief chemist.

Research and control laboratory related to mfg. pharmaceuticals and organic chemicals.

HARRISON

NOPCO CHEMICAL COMPANY, Vitamin Division,

First & Essex Sts., Harrison, N. J.

Ralph Wechsler, president.

Dr. Melvin Hochberg, director of research & production.

Research and control laboratories related to mfg. vitamin products.

HAWTHORNE

METALSALTS CORPORATION,

200 Wagaraw Road, Hawthorne, N. J.

Dr. Nathaniel Grier, director of research.

Manufacturing chemists; mercurials, inorganic and organic chemical intermediates. Product development, research and quality control laboratory related to this production. Others on the staff: R. O. Weiss and Dr. Seymour Lederer.

HILLSIDE

BRISTOL-MYERS PRODUCTS DIVISION,

225 Long Ave., Hillside 5, N. J.

Wilhelm Reiss, director of research.

At this location, research laboratory related to mfg. pharmaceuticals and toilet preparations. General offices of the company, 630 Fifth Ave., New York 20, N. Y., to which please refer.

HOBOKEN

GENERAL FOODS CORPORATION, Central Laboratories,

1125 Hudson St., Hoboken, N. J.

Harvey K. Murer, manager.

David E. James, engineering & commercial development.

Related to the full range of food products manufactured by the corporation, laboratories at this location include research, product and process development, engineering and commercial development, technical services. General offices of the corporation are 250 North St., White Plains, N. Y., Roy H. Walters, vice president, research. Please see that reference for a statement as to laboratories in manufacturing plants at various locations.

GENERAL FOODS CORPORATION, Franklin Baker Division,

15th & Bloomfield Sts., Hoboken, N. J.

A. A. Winston, research manager.

Research laboratory at this location related to mfg. food products. This is a unit of General Foods Corporation, 250 North St., White Plains, N. Y., to which please refer; see also General Foods Corporation, Central Laboratories Division, Hoboken, N. J.

THOMAS J. LIPTON, INC.,

1500 Hudson St., Hoboken, N. J.

Dr. Arthur J. Harriman, director of research.

John H. Nair, asst. director of research.

Product development and research laboratory related to mfg. food specialties, "Lipton Tea".

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STANDARD BRANDS, INC., C. & S. Division Laboratory,
16th & Riverfront, Hoboken, N. J.
R. L. Danielson, chief chemist.
Control laboratory related to mfg. food products. This
is one of the manufacturing department laboratories of
Standard Brands, Inc., 595 Madison Ave., New York 22,
N. Y., to which please refer.

THE SWEETS COMPANY OF AMERICA, INC.,
1515 Willow Ave., Hoboken, N. J.
Ernest R. Abeles, chief chemist.
Manufacturer, confectionery, "Tootsie Rolls", "Pops",
etc. Product development, research and quality control
laboratory related to this production.

UNITED STATES TESTING CO., INC.,
1415 Park Ave., Hoboken, N. J.
A. L. Brassell, president.
H. M. Block, vice president.
J. A. Mary, vice president.
Dr. D. F. Foster, director of laboratories.
Includes consultation, research, analyses; chemical,
bacteriological and physical testing, development, engineering.
Central laboratories are at this location; the
technical staff is approximately 500 people. The com-
pany's laboratory services are diversified and embrace
practically all fields of science. Please see our refer-
ence to Boston Research Division, Boston, Mass.; branch
laboratories are maintained in this and nine other cities
of the United States.

JERSEY CITY

BLOCK DRUG COMPANY,
257 Cornelison Ave., Jersey City 2, N. J.
M. W. Rosenthal, Research Director.

Product development and research laboratory related
to mfg. dental products, pharmaceuticals. Includes bac-
teriology, chemistry, biology, pharmaceutical formula-
tion. F. Davis, asst. research director.

COLGATE-PALMOLIVE COMPANY, Research & Development
Department,

105 Hudson St., Jersey City 2, N. J.
Dr. T. H. Vaughn, vice pres. in charge of
research & development.
Dr. E. E. Dreger, vice president.

Manufacturer, soaps, perfumes, toilet articles, syn-
thetic detergents and glycerine. Product development
and research laboratory related to this production; in-
cludes fundamental and applied research in biochemistry,
physical and organic chemistry. Includes also opera-
tion of large, modern pilot plants facilitating process
and product development. The staff includes, in addi-
tion to those above: Dr. A. L. Fox, director of re-
search; S. F. Coneybear, director of research; Dr. K.
L. Russell, director of research; Dr. R. B. Wear, di-
rector of research; H. E. Tremain, director of contract
research; G. D. Miles, manager, new products liaison.
Control laboratories at each plant under other super-
vision.

C. F. MUELLER COMPANY,
180 Baldwin Ave., Jersey City 6, N. J.
Valentine C. Bremer, quality control manager.
Manufacturer "Mueller's spaghetti, macaroni, etc.
Laboratory mainly quality control but includes some
product development and research.

ONYX OIL & CHEMICAL CO.,
190 Warren St., Jersey City 2, N. J.
Dr. Emery I. Valko, vice pres. & director of
research.

Product development, research and quality control
laboratory related to mfg. textiles, chemicals, deter-
gents, germicides. Assistant directors of research:
Dr. G. C. Tesoro and H. Molteni.

S. B. PENICK & COMPANY,
999 West Side Ave., Jersey City, N. J.
Dr. William G. Bywater, vice pres., research.
Dr. G. H. van de Griendt, director of research.
Research laboratory at this location. Includes bac-
teriological problems, botanical drugs, extracts of bot-
anical drugs, medicinal chemicals, alkaloids, glycosides,
aromatic chemicals, water-soluble gums, insecticide bases.
D. C. Beach, analytical and control chemist. Main office
of the company, 50 Church St., New York 7, N. Y., to which
please refer for location of other plants and laboratories.

REED & CARNRICK,
155-159 Van Wagenen Ave., Jersey City 6, N. J.
Arnold J. Singer, Ph.D., president.
Research and control laboratories related to medicinal
chemicals and pharmaceuticals.

WELLS LABORATORIES, INC.,
25-27 Lewis Ave., Jersey City 6, N. J.
Saul Frances, Ph.D., director.
Herman A. Birnbaum, chief, microbiological
department.

Research, new product evaluation and development, con-
sulting and testing in the fields of biology, bacteriol-
ogy, chemistry and pathology. Consultants to the food,
drug, cosmetic, pharmaceutical and chemical industries.
In the field of microbiology, the laboratories special-
ize in biological preservation and deterioration of tex-
tiles, protective coatings, plastics and wood.

LINDEN
ESSO RESEARCH & ENGINEERING COMPANY, Medical Research
Division,

P. O. Box 51, Linden, N. J.
Dr. Robert E. Eckardt, director, Medical Re-
search Division.

Product development and research laboratories at this
location related to petroleum research. The Medical Re-
search Division's program includes toxicology, indus-
trial hygiene, biochemistry and clinical research. Others
on the staff: N. V. Hendricks, Dr. H. W. Gerarde, Dr.
B. E. Bennison. The New York offices of the company are
15 West 51st St., New York, N. Y., and the executive of
this office representing the Linden research center is
Dr. W. J. Sweeney, vice president.

LITTLE FALLS
RYSTAN COMPANY,
47 Center St., Little Falls, N. J.

Control laboratory related to mfg. pharmaceuticals.
John Saltz, chemist. Main office of the company, Mount
Vernon, N. Y., to which please refer.

LODI
FINE ORGANICS, INC.,
205 Main St., Lodi, N. J.

Dr. Harold Weinberger, director of research.
Product development, research and control laboratory
related to mfg. pharmaceuticals, quaternary ammonium
compounds, organic intermediates; includes organic syn-
thesis. The company's main office is 211 East 19th St.,
New York 3, N. Y.

MAYWOOD
CHAS. PFIZER & CO., INC.,
Maywood, N. J.

Radio-chemical, pharmacological and medical micro-
biological research in laboratories at this location.
Please see our reference to the company at Brooklyn, N.Y.

MORRIS PLAINS
AMERICAN HOME FOODS, INC.,
Morris Plains, N. J.

H. W. Alcock, director of quality control.
Research and quality control laboratories of the G.
Washington Division and the Joseph Burnett Division are
at this location. Main offices of the company are 22
East 40th St., New York 16, N. Y., to which please refer.

WARNER-CHILCOTT RESEARCH LABORATORIES, Division of
Warner-Lambert Pharmaceutical Co.,
Morris Plains, N. J.

Leonard A. Scheele, M.D., president.
Dr. George H. Mangun, director of research.
E. Steinberg, manager of research administra-
tion.

Product development and research laboratories related
to mfg. pharmaceuticals. Others on the staff: Dr. J. A.
King, director of chemical research; Dr. R. L. Kroc, di-
rector of physiology; Dr. A. W. Ruddy, director of chem-
ical development; Dr. C. C. Scott, director of pharmacol-
ogy; Dr. G. E. Phillips, director of biochemistry; Dr.
B. S. Schwartz, director of microbiology. Main offices
of Warner-Lambert Pharmaceutical Co., 113 West 18th St.,
New York 11, N. Y., to which please refer.

MORRISTOWN
ALLIED CHEMICAL & DYE CORPORATION, Central Research
Laboratory,

P. O. Box 405, Morristown, N. J.
Dr. Frank Porter, director.
This facility extends laboratory services to all seven
of the corporation's manufacturing divisions. At an ad-

adjacent location are the laboratories of the corporation's General Chemical Division, to which please refer for further explanation; also see our reference to Allied Chemical & Dye Corporation, New York, N. Y.

ALLIED CHEMICAL & DYE CORPORATION, General Chemical Division,

P. O. Box 405, Morristown, N. J.
Dr. John H. Pearson, director.

This is one of seven manufacturing divisions of the corporation. Its production is largely heavy chemicals, from plants in a number of cities, but it includes also the "Baker & Adamson" line of reagent and laboratory chemicals, likewise weed killers, insecticides and fungicides. Research facilities of the division occupied new, modern and extensive laboratories at this location in 1954, on a site adjacent to the Central Research Laboratory of Allied Chemical & Dye Corporation, to which we make separate reference, also at Morristown. Please see also our reference to Allied Chemical & Dye Corporation, New York, N. Y.

NEWARK

AMERICAN CAN COMPANY, Atlantic Division Laboratory,
360 Elizabeth Ave., Newark 8, N. J.
Dr. R. Royce, manager.

This is one of the company's Technical Service Division laboratories. Main office of the company, 100 Park Ave., New York 17, N. Y., to which please refer.

BENZOL PRODUCTS CO.,

237 South St., Newark 5, N. J.
Dr. Leo Stone, president.

Frederick Dehls, exec. vice president.
William F. Ringk, director of research.

Research and control laboratory related to pharmaceuticals, fine chemicals, intermediates, insecticides.

G. W. CARNICK CO.,

20 Mt. Pleasant Ave., Newark 4, N. J.
Arnold O. Jackson, Ph.D., technical director.
Laboratory related to production of pharmaceuticals; includes research and control of mfg.

CHASE CHEMICAL COMPANY,

280 Chestnut St., Newark 5, N. J.
Sydney Chasman, president.
A. L. Baron, Ph.D., director of laboratories.

Research and control laboratory related to mfg. pharmaceuticals, organic chemicals, nutrition products, glandular products, cultures.

EASTERN CHEMICAL CORPORATION,

34 Spring St., Newark 4, N. J.
J. J. Heyman, director of research.

Product development, research and control laboratory related to mfg. organic laboratory reagents and research chemicals, pH indicators, biochemicals, rare sugars, amino acids, metal reagents; includes organic synthesis.

THE GRIFFITH LABORATORIES, INC.,

37 Empire St., Newark, N. J.
Francis W. Griffith, executive vice pres.
Factory and laboratories at this location. Please see our reference to The Griffith Laboratories, Inc., Chicago, Ill.

THE PRUDENTIAL INSURANCE COMPANY OF AMERICA,

Broad St., Newark 1, N. J.

Laboratory concerned with clinical pathology and research; includes serology, milk and water, routine urine and blood examinations. Director: Walter C. Hausheer, M.D.

NEW BRUNSWICK

C. OLIN BALL, Consulting Food Technologist,
P. O. Box 802, New Brunswick, N. J.

This is the Ball Food & Container Research Laboratory, of which Mr. Ball is director and owner.

CARROLL DUNHAM SMITH PHARMACAL CO.,

401 Codwise Ave., New Brunswick, N. J.
Carroll Dunham Smith, Jr., general manager.
Jerome F. Grattan, director of research.
Joseph W. Kouten, director of control.

Laboratory related to mfg. pharmaceuticals, organic

chemicals, endocrine and vitamin products. Department of pharmacology & biochemistry, Anthony W. Pircio, head. Dept. of product development, Harold Sheinaus, head. Dept. of organic chemistry, Torben E. Nees, head. Dept. of bacteriology, William E. Carbone, Jr., head.

ETHICON, INC.,

New Brunswick, N. J.
Walton Van Winkle, Jr., M.D., director of research.

Dr. L. D. Bechtol, medical director and associate director of research.

Laboratories related to development of sutures of catgut, silk, cotton, linen, nylon, tantalum, etc.; includes research in their chemistry and processing, and their behavior on animal implantation; also development of surgical specialties and pharmaceuticals. Ethicon, Inc., is a subsidiary of Johnson & Johnson, 500 George St., New Brunswick, N. J., to which please refer.

JOHNSON & JOHNSON,

500 George St., New Brunswick, N. J.

George F. Smith, president.

Dr. W. H. Lycan, vice president, research.

Manufacturer, medical and surgical supplies, pharmaceuticals. Research Center on a 300 acre tract in this general location. A subsidiary is Ethicon, Inc., New Brunswick, N. J., to which please refer.

NEW JERSEY DAIRY LABORATORIES,

226 Easton Ave., New Brunswick, N. J.

Dr. David Levowitz, director.

Maurice Weber, laboratory manager.

Bacteriological and chemical analytical service (except animal bioassay) for the dairy and food industries and for health departments. Industrial water supplies; food plant wastes; liquid cultures for dairy and food industries.

SQUIBB INSTITUTE FOR MEDICAL RESEARCH,

Squibb Institute Bldg., New Brunswick, N. J.

Roland J. Dahl, director.

The Institute is devoted to independent scientific investigations in the various fields of bacteriology, virology, chemotherapy, fermentation, antibiotics, nutrition, organic chemistry and pharmacology. It functions in connection with the E. R. Squibb & Sons Division of Olin Mathieson Chemical Corporation, New Brunswick, N. J., to which we make separate reference.

E. R. SQUIBB & SONS, Division of Olin Mathieson Chemical Corporation,

Georges Road, New Brunswick, N. J.

This is the major manufacturing plant of the Division; main offices of the Division are 745 Fifth Ave., New York 22, N. Y., to which please refer. Associated with the Division and located adjacent, is the Squibb Institute for Medical Research, to which we make separate reference.

NEWTON

LIMESTONE PRODUCTS CORPORATION OF AMERICA, Lime Crest

Research Laboratory,

R.F.D. 1, Box 67, Newton, N. J.

Dr. Harry W. Titus, technical counselor, director.

Lloyd L. Nesbitt, associate director.

Dr. Herman A. Ellenberger, biochemist.

Research and consulting laboratory; includes trace mineral pre-mixes, formula feeds, custom feeding tests with chickens, vitamin assays. Offices of the corporation are 122 Main St., Newton, N. J., Harry C. Bixler, pres.

NUTLEY

HOFFMANN-LA ROCHE, INC.,

Roche Park, Nutley 10, N. J.

Dr. J. A. Aeschlimann, vice president for chemical research.

Dr. E. L. Severinghaus, vice president for clinical research.

Research laboratory related to the manufacture and sale of pharmaceuticals and vitamin products. Work is performed in synthetic and analytical chemistry, biochemistry, chemotherapy, microbiology, nutrition, pharmacology and pharmacy. Dr. S. H. Rubin, director of product development.

ORANGE

ORGANON, INC.,

20 Main St., Orange, N. J.

Paul J. van Helden, Jr., president.

Development and production laboratories related to

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mfg. hormones and pharmaceuticals. Eugene Schapiro, Ph. D., director.

PASSAIC

BOTANY MILLS, INC.,

84-182 Dayton Ave., Passaic, N. J.

Dr. Hugo Ehrhardt, chief chemist.

Manufacturers of clothing specialties, fabrics, yarn; research and control laboratory related to that production.

JACQUES WOLF & CO.,

P. O. Box 839, Passaic, N. J.

Robert C. Braun, head, Food Specialties Division, also Biological Department.

Manufacturing chemists and importers; products include gelloid, Irish moss extracts; enzymes, fungal, bacterial, animal. Product development, research and control laboratory related to this production.

PHILLIPSBURG

J. T. BAKER CHEMICAL CO.,

North Broad St., Phillipsburg, N. J.

Dr. E. C. Larsen, vice pres. & technical director.

Dr. George E. Ham, director of research.

Product development, research and control laboratory related to mfg. inorganic and organic, fine and industrial chemicals. Includes bacteriology. Facilities at this location have recently been expanded to the extent of a new research building which adds 19,000 square feet of floor space. This is a subsidiary of Vick Chemical Co.; please see that reference, 122 East 42nd St., New York 17, N. Y.

PLAINFIELD

KENDALL INFRARED LABORATORY,

1030 Sherman Ave., Plainfield, N. J.

David N. Kendall, Ph.D., director.

Infrared consultant; chemical structure determinations and qualitative and quantitative analyses by infrared spectroscopy.

NATIONAL STARCH PRODUCTS, INC., Research Laboratory,

1700 W. Front St., Plainfield, N. J.

Dr. Carlyle G. Caldwell, vice president in charge of research.

Research and development laboratories related to mfg. starches and modified starches, starch derivatives, adhesives; also application and service laboratories devoted to food, paper, textiles and adhesives. All laboratories are at this location. Executive offices are 270 Madison Ave., New York 16, N. Y.

PLAINSBORO

WALKER-GORDON LABORATORY COMPANY,

Plainsboro, N. J.

This is also Walker-Gordon Certified Milk Farm. Research and quality control laboratory related to mfg. milk and dairy products. John S. Bryan, director of the laboratory.

PLEASANTVILLE

WENE POULTRY LABORATORIES, INC.,

Black Horse Pike, Pleasantville, N. J.

Charles S. Gibbs, D.V.M., director.

Development and production laboratory related to mfg. poultry vaccines.

PRINCETON

FOOD MACHINERY & CHEMICAL CORPORATION, CHEMICAL DIVISIONS, Central Research Laboratory,

Princeton, N. J.

A new structure of striking modern architecture will

- At right.

Architects' rendering of Central Research Laboratory of Chemical Divisions of Food Machinery & Chemical Corporation under construction near Princeton, N. J. Our references at the latter location, also at New York City, give detailed information on the new facilities.



shortly be occupied by the new Central Research Laboratory, as above, at a site near Princeton, N. J. The Central Research Laboratory is itself newly organized, and has interim offices at administrative headquarters of the Corporation's Chemical Divisions, 161 East 42nd St., New York 17, N. Y. Please see the latter reference for a statement of the professional personnel, also a description of the new laboratory facilities.

RAHWAY

MERCK & CO., INC.,

Rahway, N. J.

John T. Connor, president.

Henry W. Gadsden, executive vice president.

The company manufactures medicinal, nutritional and other organic and inorganic chemicals; pharmaceuticals and biologicals. Its products include synthetic vitamins, steroid hormones, antibiotics, coccidiostats, sulfonamides and alkaloids. The company now operates in four divisions, with headquarters as follows: The Chemical Division, Rahway, N. J., Dr. William H. McLean, president; the Sharp & Dohme Division, Philadelphia, Pa., John G. Bill, president; the Merck-Sharp & Dohme International Division, New York, N.Y., James H. Sharp, president; and the Merck Sharp & Dohme Research Laboratories Division, Rahway, N. J., Dr. Max Tishler, vice president & executive director. Please see our reference under the latter title, also our reference to the Merck Institute for Therapeutic Research, Rahway, N. J.

MERCK INSTITUTE FOR THERAPEUTIC RESEARCH,

400 East Lincoln Ave., Rahway, N. J.

Dr. L. Earle Arnow, executive director.

Dr. Harry J. Robinson, director, Rahway unit.

Dr. Karl H. Beyer, director, West Point, Pa., unit.

This is a separately incorporated organization associated with Merck & Co., Inc., Rahway, N. J. The facilities, as now, were originally at Rahway, where an extensive research center was occupied new in May, 1953. In this general location is the manufacturing plant of Merck & Co., Inc., consisting of more than 150 buildings, and situated on a site of some 200 acres. Other research and control laboratories are also here, operated directly by the company. More recently, in early 1956, the Merck Institute for Therapeutic Research was approximately doubled in scope and facilities by the inclusion within it of several research groups from the laboratories at West Point, Pa., which had originally been established as part of the research of Sharp & Dohme. These groups remain at West Point, while likewise the other research activities at that location remain to become a part of Merck Sharp & Dohme Research Laboratories Division. We make separate reference to this latter, at Rahway, N. J.

MERCK SHARP & DOHME RESEARCH LABORATORIES, Division of Merck & Co., Inc.,

Rahway, N. J.

Dr. Max Tishler, vice president & executive director.

This is one of four divisions of Merck & Co., Inc., Rahway, N. J. It now consolidates the activities of the company, including those previously operated by Merck & Co., Inc., at Rahway, and the research and development facilities established a few years ago at West Point, Pa., by Sharp & Dohme, and operated until now by that division of Merck & Co., Inc. Further in this connection, please see our reference to the Merck Institute for Therapeutic Research, Rahway, N. J., also the reference to Merck & Co., Inc., same address.

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THE WHEATENA CORPORATION,

1839 Elizabeth Ave., Rahway, N. J.

Warren J. Harlacher, vice president.

This is main office of the corporation; laboratory in plant at High Spire, Pa., to which please refer.

ROSELLE PARK

LEBERCO LABORATORIES,

123 Hawthorne St., Roselle Park, N. J.

Irving Levenstein, Ph.D., director.

Consulting chemists and biologists; includes biological and chemical analysis and research, toxicity studies, cosmetic development.

SOUTH HACKENSACK

BLACKMAN BRANDS, INC.,

Wesley St., South Hackensack, N. J.

Marvin Cohen, chief chemist.

Product development, research and quality control laboratory related to mfg. barbiturates and other medicinal chemicals.

PREMO PHARMACEUTICAL LABORATORIES, INC.,

111 Leuning St., South Hackensack, N. J.

Robert Goldman, director of laboratories.

Rudy Berls, manager.

Pharmaceutical & manufacturing chemists. Research & control laboratory on pharmaceuticals, basic medicinal chemicals, antibiotics, vitamins, hormones, etc.

SUMMIT

CELANESE CORPORATION OF AMERICA, Summit Research Laboratories,

Morris Court, Summit, N. J.

Dr. B. B. Allen, director of research.

Product development and research laboratories at this location related to mfg. textiles, plastics, chemicals. On the staff, assistant managers as follows: Dr. R. O. Denyes, textile division process research; Dr. R. G. Stoll, textile division application research; Dr. O. V. Luke, plastics division; S. B. McFarlane, laboratory facilities. Head, chemical division application laboratory, Dr. M. J. Curry. Research librarian, Mrs. Irene Roemer Stephens.

CIBA PHARMACEUTICAL PRODUCTS, INC.,

556 Morris Ave., Summit, N. J.

Dr. Frederick F. Yonkman, vice pres. in charge of research.

Dr. Emil Schlittler, vice pres. & director of research.

Laboratory related to mfg. pharmaceuticals and synthetic steroid hormones; includes research, clinical, control of mfg. Director of development research, Dr. Anthony C. Shabica. Director of pharmacy research & development, Jack Cooper. Administrative assistant to vice pres. in charge of research, Joseph Cooney.

TEANECK

GLENWOOD LABORATORIES, INC.,

555 Cedar Lane, Teaneck, N. J.

Michael Fuhrmann, president.

Manufacturers of ethical pharmaceuticals; product development and research laboratory related to medicinals.

LABORATORY OF MICROCHEMISTRY,

705 George St., Teaneck, N. J.

Carl Tiedcke, Ph.D., director.

A consulting laboratory for applied microchemistry; includes research, control of mfg.

UNION CITY

HUDSON PHARMACAL COMPANY,

4409 Park Ave., Union City, N. J.

H. G. Brower, president.

Processing plant on desiccating and production of thyroid and liver products and related glandulars. W. E. Yadeau, production and control chemist.

UPPER MONTCLAIR

DONALD F. STARR, Ph.D.,

256 N. Mountain Ave., Upper Montclair, N. J.

Consulting chemist. Product development laboratory at this location includes moth-proofing tests. Investigations and processes related to insecticides, aerosols, rodenticides, fish control, agricultural chemicals.

VINELAND

SILMO CHEMICAL CORPORATION,

South West Blvd., Vineland, N. J.

David Molof, vice president.

Research and control laboratory related to mfg. vitamin products. H. P. Loomis, chief chemist.

UNITED POULTRY LABORATORIES, INC.,

Maple Ave., Vineland, N. J.

James A. Bivins, D.V.M., director.

Product development and research laboratory related to mfg. virus vaccines for poultry; includes virology, bacteriology, immunology.

VINELAND POULTRY LABORATORIES,

E. Landis Ave., Vineland, N. J.

Arthur D. Goldhaft, V.M.D., director.

Tevis M. Goldhaft, D.V.M., general manager.

Research, consulting and control laboratory related to mfg. biologicals, serums, vaccines, chemo-therapeutic agents, disinfectants. N. E. Wernicoff, D.V.M., chief, research, development and production. Helen B. Wernicoff, D.V.M., chief technician.

NEW MEXICO

ALBUQUERQUE

CREAMLAND DAIRIES, INC.,

P. O. Box 1508, Albuquerque, N. Mex.

Steve Vioal, Jr., gen. manager.

Research, consulting and control laboratory on milk products. Harry B. Tiedebohl, technician.

NEW YORK

ALBANY

B. T. BABBITT, INC.,

20-40 Broadway, Albany, N. Y.

J. L. Perlman, director of research.

Product development, research and quality control laboratories at this location, related to mfg. detergents, cleansers, chemical specialties. Includes chemistry and physics. R. B. Mitchell, chief chemist, research. Jack Rimmer, chief chemist, quality control. Main office of the company, 386 Fourth Ave., New York 16, N. Y. Other laboratories located at Chicago, Ill., and Vernon, Calif.

ALBION

GENERAL FOODS CORPORATION, Birds Eye Division Laboratories,

162 S. Main St., Albion, N. Y.

Dr. K. G. Dykstra, manager of laboratories.

W. D. Enzie, horticultural research manager.

Product development, research and quality control laboratories related to Birds Eye frozen fruits, vegetables, juices, pre-cooked foods, etc. Main offices of the corporation are 250 North St., White Plains, N. Y., to which please refer.

ARDSLEY

GEIGY CHEMICAL CORPORATION,

Sawmill River Road, Ardsley, N. Y. (Mailing address, P. O. Box 430, Yonkers, N. Y.)

Dr. Harry Kroll, director of research.

Manufacturers of ethical pharmaceuticals; research and control laboratory. Includes pharmaceuticals, insecticides, fungicides and chemical specialties.

R.S.A. CORPORATION,

690 Saw Mill River Road, Ardsley, N. Y.

Robert S. Anthony, president.

Manufacturer, organic and pharmaceutical chemicals; product development, research and quality control laboratory related to that production. Also organic and biochemical syntheses, specializing in the difficult.

BAINBRIDGE

THE SUPPLEE LABORATORIES, a Division of Foster D. Snell, Inc.,

Bainbridge, N. Y.

E. L. Clark, director.

Wilma Doolittle, assistant director.

Consulting, analytical service in vitamin technology and bacteriology, to food, pharmaceutical, biochemical and allied industries and institutions. Includes pyrogen testing, vitamin assay, toxicology; rats for research. Please see also our reference to Foster D. Snell, Inc., 29 West 15th St., New York 11, N. Y.

BERGEN

CURTICE BROTHERS CO.,

Bergen, N. Y.

C. A. Stevenson, Chief Chemist.

Product development, research and quality control laboratories at this location related to mfg. canned and frozen foods. Include chemistry and biology. The main office of the company is 328 East Main St., Rochester 4, N. Y.

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BUFFALO
ALLIED CHEMICAL & DYE CORPORATION, National Aniline Division,
 1051 South Park Ave., Buffalo 10, N. Y.
 Dr. Wesley Minnis, director of research & development.

This is one of seven manufacturing divisions of the corporation. A new and completely modern research laboratory in the plant at this location was occupied in 1955. The principal products of the division are dyestuffs, synthetic fibers, surface-active agents, and a wide range of organic chemicals. But also included are an extensive range of certified stains, indicators, pharmaceuticals and pharmaceutical intermediates, together with a complete range of certified food and drug colors.

THE ARNER COMPANY, INC.,
 303 Michigan Ave., Buffalo 3, N. Y.
 Niels C. Klendshoj, M.D., president.
 Carlton F. Zimmerman, vice pres. in charge of production.

Roy H. Clerk, secretary & chief chemist.
 Pharmaceutical chemists, special formulae exclusively. Complete laboratories at this location for this production; also contract packaging.

CO-OPERATIVE G. L. F. EXCHANGE, INC., Mills Division,
 333 Ganson St., Buffalo 3, N. Y.
 Fred E. Randall, chief chemist.

Research and control laboratory related to mfg. poultry and dairy feeds. Please see also our reference to this co-operative and to G.L.F. Soil Building Service, both at Ithaca, N. Y.

EASTERN STATES FARMERS' EXCHANGE, INC., Milling Division,
 P. O. Box 948, Buffalo 5, N. Y.
 W. P. Frost, manager, Milling Division.

Control laboratory related to mfg. animal feeds, insecticides; Fred F. Hummel, chief chemist; Donald M. Walling, assistant.

GEO. S. HALLENBECK INSPECTION & TESTING LABORATORY,
 52-54 Pearl St., Buffalo 2, N. Y.
 George S. Hallenbeck, director & owner.
 Includes consulting, control of mfg., food products, nutrition products.

SPENCER KELLOGG & SONS, INC.,
 98 Delaware Ave., Buffalo 5, N. Y.
 This is administrative offices of the corporation. An important new research center located at 4201 Genesee St., Buffalo 25, is the subject of a separate reference. Other laboratories of the company to which please refer are located at Edgewater, N. J., and Decatur, Ill.

SPENCER KELLOGG & SONS, INC., Research Center,
 P. O. Box 2510, Buffalo 25, N. Y.
 Dr. Malcolm M. Renfrew, director of research & development.

The corporation's production includes soybean oil, coconut oil, cottonseed oil, salad oils, cooking oils, and vegetable shortening; also soybean flour. Product development, research and control laboratories are housed in the Research Center, as above, located at 4201 Genesee St. The staff and their respective departments include: Edward Handschumaker, manager of

edible products research; George J. Hutzler, manager of engineering research; Robert L. Terrill, production superintendent, director central control laboratories. Administrative offices of the corporation are at 98 Delaware Ave., Buffalo 5, N. Y.; please see that reference, in which will be found also reference to other Spencer Kellogg laboratories.

CANAJOHARIE

BEECH-NUT PACKING CO.,
 P. O. Box 46, Canajoharie, N. Y.

Allison S. Burhans, director of research.

Research, development and quality control laboratories at this location, related to mfg. food products. There are three laboratory groups under the supervision of the director of research as above. Head of food laboratories, E. J. Abeling; head of chemical development laboratory, J. H. Mathews; head of packaging & flavor laboratory, O. H. Miller. Laboratories also at Rochester, N. Y., and San Jose, Calif., to which please refer.

CAYUGA

BEACON MILLING CO., INC., Research Laboratory Division,
 Cayuga, N. Y.
 C. E. Lee, vice president.

C. O. Gourley, chief chemist.

Research and control laboratory related to the production of poultry and animal feeds. Control laboratory in company's mill, Eastport, N. Y., York, Pa., Laurel, Del.

CORNING

CORNING GLASS WORKS, Research & Development Division,
 Corning, N. Y.
 Dr. W. H. Armistead, director of research & development.
 Dr. H. R. Kiehl, assoc. director of research & development.

Manufacturer of a wide variety of glass products, "Pyrex", "Corning", "Vycor" and other brand names. Product development and research laboratory related to this production. Includes physics, physical chemistry, chemistry, glass technology, ceramic engineering, electrical engineering, etc.

ELMHURST

THE GLIDDEN CO., Durkee Famous Foods,
 82 Corona Ave., Elmhurst, L.I., N. Y.
 Stewart Woodruff, technical director.
 J. J. McMahon, plant superintendent.

Research and quality control laboratory related to mfg. food products. This is a division of The Glidden Company, Union Commerce Bldg., Cleveland 14, Ohio, to which please refer.

FULTON

THE NESTLE COMPANY, INC.,
 Fulton, N. Y.
 Dr. A. Kentie, technical director.
 Product development, research and quality control laboratory at this location, related to mfg. chocolate products. Main office of the company, White Plains, N. Y., at which location C. L. Angst is manager of technical services. Please see that reference.

OSWEGO FALLS SEALRIGHT COMPANY, INC.,
 314 South First St., Fulton, N. Y.
 H. M. Gray, works manager.
 Miss Marie Martin, laboratory director.

Bacteriological laboratory related to mfg. single service food containers and milk bottle closures.



- At left.

The Spencer Kellogg Research Center. It occupies a five-acre site on Genesee St. opposite Buffalo Municipal Airport. The building here shown houses the laboratory facilities as indicated in our text. A pilot plant not shown in our illustration is available in connection with new products and processes.

ISLIP
UTH SHORE ANALYTICAL & RESEARCH LABORATORY, INC.,
148 Islip Ave., Islip, N. Y.
Morris L. Rakieten, M.D., Ph.D., director.
Consulting laboratory includes histo-pathology, bio-
chemistry, pharmacology, bacteriology. Others on the
aff, Nathan Rakieten and Bernard Newman.

ITHACA

-OPERATIVE G.L.F. EXCHANGE, INC.,
Terrace Hill, Ithaca, N. Y.

G. H. Serviss, chief agronomist.

A Division of the Co-operative is G.L.F. Soil Building Service, 1001 W. Seneca St., Ithaca, N. Y.; please see our reference under that title. Also the Feed Division maintains a laboratory in plant at Buffalo, N. Y.; see see our reference to the co-operative at that location.

L.F. SOIL BUILDING SERVICE, a Division of Co-Operative G.L.F. Exchange, Inc.,
1001 W. Seneca St., Ithaca, N. Y.

William J. Tucker, manager of quality control.
H. E. Van Thiel, chief chemist.

Manufacturing at this location, fertilizers, insecticides, miscellaneous farm chemicals. Laboratory functioning primarily on quality control, includes also research and product development in part on agricultural chemicals. Please see our reference to Co-Operative L.F. Exchange, Ithaca, N. Y., which is main office.

KATONAH

CKRILL CHEMICAL RESEARCH FOUNDATION, INC.,
Maple Ave., Katonah, N. Y.

William Doering, director of research.

Research laboratory on organic chemistry. Lawrence Knox, director of the laboratory.

LITTLE FALLS

JR. HANSEN'S LABORATORY, INC., "Junket" Brand Foods Division,

Little Falls, N. Y.
A. C. Benjamin, president & gen. manager.
H. D. MacHorrie, factory manager.

Research and control laboratory related to rennet extracts, powdered and liquid. Dr. T. F. Irmiter, laboratory director. Laboratory also at Milwaukee, Wis., to which please refer.

MASPETH

NATIONAL CAN CORPORATION, Maspeth Research Laboratory,
52-08 Grand Ave., Maspeth, N. Y.

B. B. Lipske, director.

Laboratory on research and control of raw materials that go into the manufacture of metal containers; includes testing foods and general line products to determine what types of containers are best suited. The corporation's executive offices are 3217 West 47th Place, Chicago 32, Ill., to which please refer.

MIDDLEPORT

OOD MACHINERY & CHEMICAL CORPORATION, Niagara Chemical Division,

Middleport, N. Y.
J. V. Vernon, president of the Division.
O. H. Johnson, director of research.

Research laboratory related to mfg. agricultural pesticides. Main offices of Food Machinery & Chemical Corporation are San Jose, Calif., to which please refer.

MIDDLETOWN

POLAK'S FRUTAL WORKS, INC.,

33 Sprague Ave., Middletown, N. Y.
Bernard Polak, president.

Ernest H. Polak, director of research.

Manufacturers of flavors, essential oils, perfume oils and synthetics. Product development and research laboratory related to this production.

MOUNT VERNON

RYSTAN COMPANY,

7 N. MacQuesten Parkway, Mount Vernon, N. Y.
Henry F. Stanton, Jr., general manager.

Research and control laboratory related to mfg. pharmaceuticals. Ben Goldman, chief chemist. Control laboratory also at Little Falls, N. J., to which please refer.

SCHWARZ LABORATORIES, INC.,

230 Washington St., Mount Vernon, N. Y.
Herbert A. Schwarz, president.
Dr. Stephen Laufer, vice president.
Malvin J. Mayer, vice president.
David R. Schwarz, vice president.

Manufacturers of fine chemicals, amino acids, radio-

chemicals and pharmaceutical specialties. Laboratories at this location related to that production; include chemical and biological analysis and research; foods, chemicals, drugs. M. W. Brenner, director of technology. Earl D. Stewart, chief chemist.

NEW ROCHELLE

PHYSIOLOGICAL CHEMICALS CO., INC.,
3 LeFevre Lane, New Rochelle, N. Y.
Robert Holzhauer, manager.

Product development, research and quality control laboratories related to mfg. ethical pharmaceutical specialties.

NEW YORK CITY (Includes Brooklyn and
ALLIED CHEMICAL & DYE CORPORATION,
61 Broadway, New York 6, N. Y.

Dr. Glenn A. Nesty, vice president.

This is general offices of the corporation. The organization includes eight divisions, of which we make separate reference to the following, at the locations stated: General Chemical Division, Morristown, N. J.; Mutual Chemical Division, Baltimore, Md.; National Animaline Division, Buffalo, N. Y.; Nitrogen Division, Hopewell, Va. Each Allied division conducts its own research in its own laboratories; in addition all the divisions benefit from the research activities of the Central Research Laboratory. Our reference to the latter is included in that of the General Chemical Division, at Morristown, N. J. All told, Allied maintains twelve laboratory installations staffed by more than 1,600 people. In one recent year some four million dollars was invested in research facilities at Buffalo, N. Y., Hopewell, Va., and Morristown, N. J.

AMERICAN CAN COMPANY,

100 Park Ave., New York 17, N. Y.

Dr. Roger H. Lueck, vice president, research.

Research and Technical Department has headquarters at this location, which is also main office of the company. Laboratories of several divisions, at their respective locations, are related to packaging technology of foods and non-foods, research and development problems on metal and fibre containers and their manufacturing processes. These include the following, to which we make separate reference, and in this connection we show also executive personnel: Research Division, also Development Division, Research Center, Barrington, Ill. Technical Service Division, also Agronomy Division, Maywood, Ill. Other technical service laboratories to which likewise we refer, are as follows: Newark, N. J.; San Francisco, Calif.; Hamilton, Ont., Canada.

AMERICAN CYANAMID COMPANY, Research Division,

30 Rockefeller Plaza, New York 20, N. Y.
Kenneth H. Klopstein, general manager, Research Division.

Dr. Richard O. Roblin, asst. general manager, Research Division.

Dr. George L. Royer, administrative asst. to the general manager, Research Division.

The Research Division is now one of ten divisions of American Cyanamid, the other nine being operating divisions with which the Research Division has co-ordinate status. Development activities are carried out by the operating divisions at various laboratories at the plant locations. The research activities formerly housed at the Bound Brook laboratories, the Stamford laboratories and the Pearl River laboratories respectively remain grouped among these three locations, and are now under the administration of the Research Division. We show three separate references to these three laboratory locations, and indicate to some extent how the research activities are apportioned among them. They are: Bound Brook, N. J.; Stamford, Conn.; Pearl River, N. Y. The Bound Brook laboratories are responsible for the research of the Organic Chemicals and the Pigments Divisions; the Pearl River laboratories for the Fine Chemicals and the Lederle Laboratories Divisions; and the Stamford Laboratories for the Industrial Chemicals, the Agricultural Chemicals and the Plastics & Resins Divisions, as well as for basic research for the over-all company. Davis & Geck, Inc., one of the nine operating divisions of the company, is the subject of a separate reference at its new location, Danbury, Conn.

AMERICAN HOME FOODS, INC.,

22 East 40th St., New York 16, N. Y.

Walter Silbersack, president.

This corporation is itself a subsidiary of or is affiliated with American Home Products, Inc., same address, concerning which we make extended separate reference. More-

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over it is the principal unit of the parent company's food division. It operates in several divisions whose names and titles are identified with the products of the respective divisions. They include: The G. Washington Division, and the Joseph Burnett Division, to both of which we make separate reference at Morris Plains, N. J.; also Chef Boy-Ar-Dee Division, Milton, Pa.

AMERICAN HOME PRODUCTS CORPORATION,
22 East 40th St., New York 16, N. Y.
Walter Silbersack, president.
H. E. Carnes, executive vice president.

This corporation operates in several divisions of which all but one, here omitted, are concerned to some extent in the chemical bio-sciences. They are: Pharmaceutical, biological and nutritional division; the packaged drug and cosmetic division, and the food division. The latter is an important unit within itself, American Home Foods, Inc., 22 East 40th St., New York 16, N. Y.; we make separate reference to it at that address. In all of the instances which we cite as subsidiaries of American Home Products Corporation, research is under the administration of the respective subsidiaries and in facilities at the various plants or other locations. The packaged drug and cosmetic division includes principally the Whitehall Pharmacal Co., 22 East 40th St., New York 22, N. Y., and with plants at Elkhart, Ind., Bergenfield, N. J., and Windsor and Toronto, Ont. We enumerate the subsidiaries included in the pharmaceutical, biological and nutritional division, and to each of them we make separate reference at the locations indicated: Wyeth Laboratories, Radnor, Pa.; Ives-Cameron Co., Philadelphia, Pa.; Fort Dodge Laboratories, Inc., Fort Dodge, Iowa; Ayerst, McKenna & Harrison, Ltd., Montreal, Que., also Ayerst Laboratories Division, 22 East 40th St., New York 16, N. Y.

AMERICAN MAIZE PRODUCTS CO.,
250 Park Ave., New York 17, N. Y.
Research and control laboratory in plant at Roby, Ind., to which please refer.

AMERICAN MOLASSES COMPANY, Applied Sugar Laboratories,
120 Wall St., New York 5, N. Y.
Fred H. Harding, director.

Research and control laboratory, a unit of the company indicated, related to mfg. molasses, sugar, syrups, etc.

AMERICAN PHARMACEUTICAL COMPANY,
120 Bruckner Blvd., New York 54, N. Y.
E. K. Gossett, president.
F. W. Ziffner, Ph.D., director of laboratories.
Research and control laboratory related to mfg. pharmaceutical and medicinal products. Home office and laboratories at this location.

AMERICAN SEAL-KAP CORPORATION,
11-05 44th Drive, Long Island City 1, N. Y.
D. A. Mackin, president.
Research laboratory related to mfg. food packaging and package closures. Russell L. Wilson, chief chemist.

THE AMERICAN SUGAR REFINING CO.,
120 Wall St., New York 5, N. Y.
Victor L. Johnson, vice president.
This company's Research & Development Division has laboratory facilities at Foot of Tasker St., Philadelphia, Pa., to which please refer.

THE AMERICAN TOBACCO COMPANY,
111 Fifth Ave., New York 3, N. Y.
P. L. Fowler, vice president.
This company's research laboratory, Richmond, Va., to which please refer.

AYERST LABORATORIES, Division of American Home Products Corporation,
22 East 40th St., New York 16, N. Y.
W. Boyd O'Connor, president.
Dr. Jack B. Jewell, vice president, medical.
This is the main office in the United States of this manufacturer of pharmaceuticals, glandular products, biologicals, nutrition products, organic chemicals. The affiliated Canadian company is Ayerst, McKenna & Harrison, Ltd., P. O. Box 6115, Montreal, Que. Research and control laboratories are at that address, and the reference appears alphabetically in our Canadian section. The

principal manufacturing plant in the U. S. is Rouses Point, N. Y., Frank R. Forbes, plant manager; please see that reference. Likewise see our reference to main office of American Home Products Corporation, 22 East 40th St., New York 16, N. Y.

THE BAKER CASTOR OIL CO.,
120 Broadway, New York 5, N. Y.

This is general offices of the company. Laboratories and plant at 40 Avenue A, Bayonne, N. J., to which please refer.

BENDINER & SCHLESINGER, INC.,
Third Ave. & Tenth St., New York 3, N. Y.
M. F. Schlesinger, director.
Dr. John T. Myers, director.

Analytical and consulting laboratories; include biological, bacteriological, biochemical, chemical.

THE BEST FOODS, INC.,
1 East 43rd St., New York 17, N. Y.
H. W. Vahlteich, Ph.D., vice pres. in charge
of research and quality control.

The company's research laboratories are located at Bayonne, N. Y.; please see that reference. Quality control and technical service laboratories also are at Bayonne, and at Chicago, Ill., San Francisco, Calif., and Dallas, Texas. Product development, quality control and technical service laboratory in the cereal division is located at Buffalo, N. Y.

BIOS LABORATORIES, INC.,
17 West 60th St., New York 23, N. Y.
Dr. Fred Linsker, director.

Research and control laboratory related to mfg. biochemical products, intermediates, pharmaceuticals, re-agents.

THE BON AMI COMPANY, Research Laboratory,
21 West St., New York 6, N. Y.

Dr. Daniel H. Terry, Director of Research.
Product development, research and quality control laboratory related to mfg. "Bon Ami" scouring powder, "Bon Ami" cake, "Glass Gloss". Includes analytical, engineering, market research, development, pilot plant production. Main office of the company, 17 Battery Place, New York 6, N. Y., Alvah E. Davison, president.

THE BORDEN COMPANY,
350 Madison Ave., New York 17, N. Y.
Harold W. Comfort, president.

Divisions of the company include the following: Fluid Milk & Ice Cream, Roy D. Wooster, vice pres.; Cheese, Charles A. Eckburg, vice pres.; Food Products, Willis H. Gurley, vice pres.; Chemical Division, A. R. Marusi, vice pres.; Special Products Division, Dr. R. J. Kunz, division head. The Food Products Division has 24 plants, producing condensed and evaporated milk, instant coffee, mince meat, powdered milk, malted milk, and powdered fruit juices. The Special Products Division produces animal and poultry feed supplements, soybean oil and meal, prescription foods, vitamins, minerals and fortifiers, milk sugar, bakers' ingredients, and beverage bases. Laboratories are maintained among these divisions and affiliated companies. We make separate reference to only a few, which perhaps are typical to some degree: Elgin, Ill., nutritional research laboratory; Dixon, Ill., manufactured products division; Plymouth, Wis., Lakeshore-Marty Co., Cheese Division; Philadelphia, Pa., Chemical Division, central research laboratory.

BRISTOL-MYERS COMPANY,

630 Fifth Ave., New York 20, N. Y.
This company maintains two important laboratories, to which please refer. One of them, research on pharmaceuticals and toilet preparations, is in the plant at Hillside, N. J.; the other is that of a subsidiary, Bristol Laboratories, Inc., Syracuse, N. Y., which includes research on pharmaceuticals and antibiotics.

CERTIFIED LABORATORIES, INC.,
19 Hudson St., New York 13, N. Y.
Charles Paley, director.

Includes consulting, research, foods and dairy products. Bernard Tzall, assistant to director.

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INCENT CHRISTINA & COMPANY, INC.,
121-123 East 24th St., New York 10, N. Y.
Hyman J. Schwartz, president.
Ruben Winfeld, secretary & treasurer.
Frank L. Haley, M.D., medical director.
Manufacturing pharmaceutical chemists. Chemo-therapeutic and biochemical research laboratories; include also control of mfg. and consultation.

COLGATE-PALMOLIVE COMPANY,
Colgate-Palmolive Bldg., 300 Park Ave.,
New York 22, N. Y.

General offices now at this address. Research & development department, 105 Hudson St., Jersey City 2, N. J., to which please refer.

COMMERCIAL SOLVENTS CORPORATION,
260 Madison Ave., New York 16, N. Y.
This company's research center located at Terre Haute, Ind., to which please refer.

CONTINENTAL CAN CO., INC.,
100 East 42nd St., New York 17, N. Y.
C. L. Adcock, director of technical development.
This is main office of the company. We make separate reference to the new facilities of the Metal Division Research & Development Department, Chicago, Ill. Also in Chicago is headquarters of the Central Research & Engineering Division, to which please refer. In addition to the facilities at two locations in Chicago, as just mentioned, Continental maintains seven other divisional research and development establishments in the United States and Canada.

CORN PRODUCTS REFINING CO.,
17 Battery Place, New York 4, N. Y.
This is general offices of the company. The Chemical Division's research laboratories are at Argo, Ill., to which please refer.

COURTAULDS, INC.,
600 Fifth Ave., New York, N. Y.
Please see our reference to this company, Mobile, Ala.

DAIRYTEST SERVICE,
78-61 76th St., Brooklyn 27, N. Y.
Isaac Cohen, director.
Includes bacteriological and chemical analysis of dairy and food products.

DALARE ASSOCIATES, The Dairy Laboratories,
145 Greenwich St., New York 6, N. Y.
John W. Hudson, manager.
Charles H. Kimberly, consultant.
Consulting laboratory, includes research and control of mfg., milk products, cultures. Connected with laboratories of the same name at Philadelphia, Pa., Baltimore, Md., and Washington, D. C.

DI CYAN & BROWN,
12 East 41st St., New York 17, N. Y.
Erwin Di Cyan, Ph.D., director.
Consulting chemists. Includes new drug development, pharmacological investigations, formulation of drug products, alteration of formulae, labels and labeling preparation, technical representation before F.D.A.

DOUGHNUT CORPORATION OF AMERICA, Central Research Laboratories,
45-51 West 36th St., New York 18, N. Y.
Zenas Block, vice pres., planning & research.
Includes research related to mfg. food products. General offices also at this location.

EKROTH LABORATORIES, INC.,
60 Freeman St., Brooklyn 22, N. Y.
Research, consultation, testing; analytical and engineering chemistry. Combustion, water and air pollution; sewage and industrial wastes; contamination, reuse of polluted waters. Includes bacteriology, toxicology, vitamin and hormone assays.

EMMET TECHNICAL ASSOCIATES,
92 Liberty St., New York 6, N. Y.
Mark M. Luckens, director.
R. D. Majewska, administrative director.

Consultant services. Laboratory includes chemistry, microbiology, industrial and forensic toxicology, public health and sanitation, pharmacology, air and water pollution control; product development, research, control.

ESSO RESEARCH & ENGINEERING COMPANY,
15 West 51st St., New York, N. Y.
Dr. W. J. Sweeney, vice president.

Extensive modern research facilities of this company are located at Linden, N. J., and one part of the comprehensive program is that of the Medical Research Division. Please see our reference to this company and that division, Linden, N. J.

EVANS RESEARCH & DEVELOPMENT CORPORATION,
250 East 43rd St., New York 17, N. Y.
Ralph L. Evans, Ph.D., president.
Everett G. McDonough, Ph.D., vice president & general manager.
Eric J. Hewitt, Ph.D., vice pres. & director of research.

Murray Berdick, Ph.D., co-ordinator of research.
Consultant services; laboratories include chemical research, food technology, flavor and odor, product development.

FOOD MACHINERY & CHEMICAL CORPORATION, Chemical Divisions,
161 East 42nd St., New York 17, N. Y.
Ernest Hart, executive vice pres. in charge of Chemical Divisions.
Dr. Carl F. Prutton, vice president & technical director of the Corporation.
Dr. Emil Ott, vice president, Chemical Divisions, director of Central Research.

Administrative headquarters of the Corporation's Chemical Divisions are at this address, New York City; main office of the Corporation is San Jose, Calif., to which please refer. There are six operating divisions of the Corporation, which are grouped in the Chemical Divisions; and seven chemical research laboratories are currently maintained as part of the individual divisional structures. The status of these laboratories remains unchanged; however a new Central Research Laboratory has been organized and is now located at the address above while new quarters for it to occupy are being completed near Princeton, N. J. The new Central Laboratory will concentrate on long range research on new products and processes in such fields as polymers, special organic compounds, tracer-element applications, and plastics. Research will also be carried out in various high-temperature and high-pressure manufacturing processes, and generally in fields not immediately related to the company's present production. The new Central Research Laboratory is located on a 37-acre site on the Plainsboro Road, near Princeton. It is adjacent to the James Forrestal research laboratories of Princeton University. Construction is at this writing practically completed. The building is of the most modern design, air conditioned throughout, and equipped with extensive library and auxiliary facilities. It has 700 feet of frontage, and the area is 45,000 sq. ft. of floor space. It is designed to accommodate 180 chemists, chemical engineers and technicians. Staff appointments in the preliminary organization, in addition to those named above include: Dr. W. L. Davidson, assistant director of central research; Dr. S. C. Carniglia, manager, inorganic and physical chemistry dept.; Dr. C. A. Heiberger, manager, plastics and polymer dept.; Dr. H. H. Stange, manager, organic chemistry dept.; S. Philip Marcus, business manager.

FOOD RESEARCH LABORATORIES, INC.,
48-13 33rd St., Long Island City 1, N. Y.
Dr. Philip B. Hawk, president.
Dr. Bernard L. Oser, vice pres. & director.
Dr. Kenneth Morgareidge, chief chemist.
Dr. Myron Brin, chief biologist.
John J. Gavin, chief microbiologist.

Includes research, analysis, consultation on foods, drugs, cosmetics and allied products. Specialists in biochemistry, nutrition, toxicology, microbiology.

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GALLOWHUR CHEMICAL CORPORATION,
801 Second Ave., New York 17, N. Y.
Dr. Sylvan I. Cohen, vice president, research.
Laboratories located in plant at Ossining, N. Y.,
please see that reference.

GAR-BAKER LABORATORIES, INC.,
110 West 18th St., New York 11, N. Y.
James H. Baker, president.
Consulting laboratory, includes research, control of
mfg.; proprietary products, pharmaceuticals, industrial
problems. Chemists: A. Minton and L. Nasarevich.

THE GIVAUDAN CORPORATION,
330 West 42nd St., New York 36, N. Y.
Victor DiGiacomo, administrator of service
laboratories.
Creative and service laboratories; development of perfume oils for perfume extracts, soaps and cosmetics; aerosol fragrances; flavors for the food and beverage industries. This is main office of the corporation and affiliated firms, Sindar Corporation, Givaudan-Delawanna, Inc., and Givaudan Flavors, Inc. Please see also our reference to The Givaudan Corporation, Delawanna, N. J.

GOOD HOUSEKEEPING BUREAU, Laboratory.
959 Eighth Ave., New York 19, N. Y.
Albert A. Schaal, director.
Ruth R. Bien, chief chemist.

Functions of the laboratory include investigation of products offered for advertisement in the magazine as a prerequisite for the acceptance of such advertising; also research when necessary. Related to food and nutrition products, cosmetics and limited types of pharmaceuticals; also textiles and household supplies such as detergents, floor waxes, etc. The laboratory is a division of Good Housekeeping Bureau, a department of The Hearst Magazines, Division of The Hearst Corporation.

HASKINS LABORATORIES,
305 East 43rd St., New York 17, N. Y.
Franklin S. Cooper, Ph.D., president & director of research.
Paul A. Zahl, Ph.D., associate director.

A non-profit foundation devoted exclusively to research; includes microbiology, physiology, genetics and psycho-acoustics. Total staff, about 40. A Division of Haskins Laboratories is a research unit of Union College, Schenectady, N. Y.

HEXAGON LABORATORIES, INC.,
3536 Peartree Ave., New York 69, N. Y.
Harold R. Frost, president & director of research & development.

Product development, research and quality control laboratory related to mfg. pharmaceuticals; includes organic syntheses.

HEYDEN CHEMICAL CORPORATION,
342 Madison Ave., New York 17, N. Y.
Dr. Herman Sokol, vice president in charge of research & development.

Product development and research laboratory of this company, 290 River Road, Garfield, N. J. Please see that reference, also see this corporation's division, Nuodex Products Co., Inc., 1075 Magnolia Ave., Elizabeth, N. J.

HUDSON LABORATORIES, INC.,
117 West 13th St., New York 11, N. Y.
Roger F. Lapham, M.D., director.
Consulting chemists and bacteriologists. Product development, research and control laboratories at this location extend services in sanitation, disinfection, antisepsis, sterilization, vitamins, antibiotics, foods, drugs, cosmetics. The staff includes Rebecca L. Shapiro, chief bacteriologist; Elizabeth B. Ramsey, bacteriologist, vitamins and antibiotics. The firm's laboratory of toxicology and pharmacology is at Hopewell Junction, N. Y.; Grace M. McGuire, assistant director.

INTERNATIONAL SALT COMPANY, INC.,
254 West 31st St., New York 1, N. Y.
Kurt Ladenburg, research director.
Product development and research laboratory related to the production indicated. Main office of the company, P. O. Drawer 911, Scranton 2, Pa.

JASONOLS CHEMICAL CORPORATION,
825 East 42nd St., Brooklyn 10, N. Y.
E. Dante, vice president.
T. Tamper, technical director.

Chemical consultants as well as manufacturers of specialty chemicals, biochemicals, rare chemicals, chemical intermediates. Product development, research and control laboratory related to this production.

JEFFERSON CHEMICAL COMPANY, INC.,
260 Madison Ave., New York 16, N. Y.
Dr. Max Neuhaus, vice president, development.
This is main office of the company. Please see our reference to this company's Austin Laboratories, Austin Texas.

KAY FRIES CHEMICALS, INC.,
180 Madison Ave., New York 16, N. Y.
Please see our reference to this company at West Haverstraw, N. Y.

C. F. KIRK COMPANY,
521-523 West 23rd St., New York 11, N. Y.
Harry E. Gross, president.
A. Lincoln Konwiser, treas. & laboratory director.

Pharmaceutical and biological manufacturing laboratories related to injection medications, vaccines, pol-lens, etc.; includes research and control.

THOS. LEEMING & CO., INC. - PACQUIN, INC.,
155 East 44th St., New York 17, N. Y.
Dr. Russell A. Cain, scientific director.
Laboratory related to mfg. pharmaceuticals and cosmetics in plant at Glen Rock, N. J., to which please refer. Dr. Cain has office here and at Glen Rock.

LEHN & FINK PRODUCTS CORPORATION,
445 Park Ave., New York 22, N. Y.
Edward Plaut, president.
Manufacturers pharmaceutical and cosmetic products; laboratory and plant at Bloomfield, N. J., to which please refer.

LEVER BROTHERS COMPANY,
390 Park Ave., New York 22, N. Y.
General offices at this location. Please see our reference to Lever Brothers Company, Research Center, 45 River Road, Edgewater, N. J.

LIGGETT & MYERS TOBACCO CO.,
630 Fifth Ave., New York 20, N. Y.
W. A. Blount, vice president.
This company's research laboratory at Durham, N. C., to which please refer.

LOFT CANDY CORPORATION, Laboratory,
38-38 Ninth St., Long Island City 1, N. Y.
Candy mfg. at this location, also paper box mfg. and coconut processing. Product development, research and quality control laboratory related to this production. Murry H. Raphael, sanitarian & chemist, in charge of the laboratory. Sam Goldstein, asst. plant supt.

MCKESSON & ROBBINS, INC.,
155 East 44th St., New York 17, N. Y.
W. E. Dewell, vice president charge manufacturing.
This company's McKesson Laboratories located at Bridgeport, Conn., to which please refer.

MALT-DIASTASE COMPANY,
1563 Decatur St., Brooklyn 27, N. Y.
Harold Gross, chief chemist.

Manufacturers of diastatic and non-diastatic malt syrups and powders, fondant icing, flavors. Product development, research and quality control laboratory related to this production.

MANN RESEARCH LABORATORIES, INC.,
136 Liberty St., New York 6, N. Y.
Fred J. Mann, president.
Product development and research laboratories related to mfg. biochemicals for research.

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INUTE MAID CORPORATION,

488 Madison Ave., New York 17, N. Y.

This company's Norman V. Hayes Memorial Laboratory is located at Plymouth, Fla. Please see that reference.

NATIONAL BISCUIT COMPANY,

449 West 14th St., New York 14, N. Y.

R. K. Hower, director of research.

Research laboratory at this address, related to mfg. food products. This is also main office of the company. Control laboratories in the company's mills at Carthage, Ill., Cheney, Wash., Toledo, Ohio, and at the various bakeries.

NATIONAL DAIRY PRODUCTS CORPORATION,

260 Madison Ave., New York 16, N. Y.

The corporation's research center is National Dairy Research Laboratories, Inc., Oakdale, L.I., N. Y. to which please refer. We show also other units of the corporation as follows: Kraft Food Company Laboratories, Glenview, Ill., and Sheffield Chemical Co., Inc., Norwich, N. Y.

NATIONAL DISTILLERS PRODUCTS CORPORATION,

99 Park Ave., New York 16, N. Y.

John E. Bierwirth, president.

Dr. Robert E. Hulse, vice president.

Plants of this corporation at a number of locations in various states, produce alcoholic beverages and by-products under well known brand names. They have product and process control laboratories, one or more at each plant. We make separate reference to those at Peoria, Ill., and Cincinnati, Ohio. Also there is an operating division of the corporation, U. S. Industrial Chemicals Co., same address as above, which represents an important production of industrial chemicals, solvents, polyethylene resins, and feed supplements. Please see our reference to that division under the title and place indicated. An affiliated company, National Petro-Chemicals Corporation, has an extensive manufacturing plant at Tuscola, Ill., to which we make separate reference.

NATIONAL STARCH PRODUCTS, INC.,

270 Madison Ave., New York 16, N. Y.

This is executive offices of the company. Research & development laboratories are 1700 W. Front St., Plainfield, N. J., to which please refer.

NEW DRUG INSTITUTE,

130 East 59th St., New York 22, N. Y.

Bernard Davidow, Ph.D., director of pharmacology & toxicology.

Laboratory extending consulting services to the food, drug and cosmetic industry in pharmacology, toxicology and pharmaceutical chemistry.

NEW YORK PRODUCE EXCHANGE, Bureau of Chemistry,

2 Broadway, New York 4, N. Y.

Dr. Michael F. Lauro, chief chemist.

Laboratory at this location includes inspection, analysis, consultation, research; oils, fats, waxes, soaps, feeds, fertilizers, chemicals, drugs, cereals, foods, nutrition products, canned goods.

THE NEW YORK SUGAR TRADE LABORATORY, INC.,

113 Pearl St., New York 4, N. Y.

Wendell W. Binkley, research director and chemist in charge.

This is maintained by a membership association of the same name with office at 70 Pine St., New York, N. Y., Thomas B. Crawford, executive secretary. The laboratory engages in examination and analysis of sugars and sugar products, including research.

OLIN MATHIESON CHEMICAL CORPORATION,

745 Fifth Ave., New York 22, N. Y.

Fred Olsen, vice president, research.

Russell Hopkinson, vice president, development.

J. J. Toohy, vice president.

This is main offices of the Corporation. A Division is E. R. Squibb & Sons, same address as above, with plant and research facilities at New Brunswick, N. J. Please see separate reference at both these locations. Also we refer to the Paper Division's research laboratory, Ecusta Paper Corporation, Pisgah Forest, N. C.; likewise we show sepa-

rately the Corporation's Eastern Fertilizer & Pesticide Division, at Port Jefferson, N. Y. A general research organization of Olin Mathieson Chemical Corporation is at New Haven, Conn.; and the Corporation's Industrial Chemicals Division is at Mathieson Bldg., Baltimore 3, Md.

PACIFIC COAST BORAX CO., Division of Borax Consolidated, Limited,

100 Park Ave., New York 17, N. Y.

Please see our reference to this company's laboratories, 630 Shatto Place, Los Angeles 5, Calif.

THE PANRAY CORPORATION,

340 Canal St., New York 13, N. Y.

Myron Pantzer, vice president.

Milton Feier, secretary, chief chemist.

Research and control laboratory, also consultation, related to mfg. pharmaceuticals, new chemo-therapeutic agents, organic chemicals, biologicals.

S. B. PENICK & COMPANY,

50 Church St., New York 7, N. Y.

Dr. William G. Bywater, vice pres., research.

Plants and laboratories located at 258 Brunswick St., Jersey City, N. J., also at Lyndhurst and Montville, N. J. Research laboratory located at 999 West Side Ave., Jersey City, N. J., to which please refer.

PENICK & FORD, LTD., INC.,

420 Lexington Ave., New York 17, N. Y.

Laboratory in plant at Cedar Rapids, Iowa, to which please refer.

J. C. PENNEY CO., INC.,

330 West 34th St., New York 1, N. Y.

Charles W. Dorn, director, research laboratory.

Research laboratory at this location at the present time concerns itself almost entirely with textiles, rubber, plastics and leather. Phases of the work, however may encounter some bacteriological work on textile finishes and fungastatic finishes.

CHAS. PFIZER & CO., INC.,

11 Bartlett St., Brooklyn 6, N. Y.

Dr. Jasper H. Kane, vice pres. in charge of research & development.

Dr. Ernest M. Weber, director of biochemical research & development.

Dr. Karl Brunings, director of chemical research & development.

Dr. Michael Carlozzi, director of clinical research.

Dr. Herbert G. Luther, director of agricultural research & development

Manufacturing chemists. The company is stated to be the world's largest producer of antibiotics, and is a leading manufacturer of pharmaceutical specialties, medicinal and industrial chemicals, and products for animal health and nutrition. General sales offices are at the above address, also parts of the company's production and research are at this location and at Groton, Conn., and Terre Haute, Ind. Laboratories of the firm in Maywood, N. J., are engaged in radio-chemical, pharmacological and medical microbiological research. Research on animal health and nutrition is carried on at the Pfizer Agricultural Research & Development Center, near Terre Haute, Ind., where the 700-acre operation is stocked with more than 1,000 animals for experimental purposes. Please see also our reference to J. B. Roerig & Co., Chicago, Ill.

PHILIP MORRIS, INCORPORATED,

100 Park Ave., New York 1, N. Y.

R. N. DuPuis, Vice president, research & development.

This is general offices of the company. Research and development laboratories are Seventh & Stockton Sts., P. O. Box 1895, Richmond 15, Va., to which please refer.

PUBLIC SERVICE TESTING LABORATORIES, INC.,

137 East 25th St., New York 10, N. Y.

P. Massetti, managing director.

Consulting commercial laboratory; includes investigations and processes in product development, research, control, chemical, physical, metallurgical, biological non-destructive. Technical director, M. Di Martino; chief chemist-radiologist, A. Thornton.

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QUALITY BAKERS OF AMERICA CO-OPERATIVE, INC.,
120 West 42nd St., New York 36, N. Y.
Research and quality control laboratory related to
bakery products. Oscar Skovholt, Ph.D., director.

RAYONIER INCORPORATED,
161 East 42nd St., New York 17, N. Y.
Dr. Arthur N. Parrett, vice pres. in charge of
research & development.
Please see our reference to this company's Research
Division, Shelton, Wash.

REVLON PRODUCTS CORPORATION, Laboratory,
2417 Third Ave., New York 51, N. Y.
Raymond Stetzer, chief chemist.
Joseph Wheeler, asst. chief chemist.
Product development, research and control laboratory
at this location, related to mfg. cosmetics, toilet
requisites. Includes bacteriology, mycology, dermatolo-
gy, pharmacology, chemistry, chemical engineering.

JACOB RUPPERT,
1639 Third Ave., New York 28, N. Y.
C. A. Dayharsh, chief chemist.
Brewery. Research and quality control laboratory re-
lated to the brewing of beer and ale.

THE F. & M. SCHAEFER BREWING CO.,
430 Kent Ave., Brooklyn 11, N. Y.
Dr. John B. Bockelmann, technical director.
Quality control and research laboratory related to
brewing "Real" beer and "Irish Cream" ale. Control
laboratory also in brewery of the same name, Albany,
N. Y.

SCHENLEY LABORATORIES, INC.,
350 Fifth Ave., New York 1, N. Y.
Dr. Bruno Puetzer, vice president, research.
Dr. B. Marr Lamman, director of clinical
research.

This is executive offices of the company. Laboratory
related to mfg. pharmaceuticals located at Lawrenceburg,
Ind.

SCHIEFFELIN & CO.,
16-30 Cooper Square, New York 3, N. Y.
W. J. Schieffelin, III., vice president.
Dr. Alfred Halpern, scientific director, phar-
maceutical mfg. division.

Pharmaceutical mfg. and research laboratories at this
location; include biological products. F. H. Bivins,
production manager.

SCHIMMEL & CO., INC.,
601 West 26th St., New York 1, N. Y.
G. Keller, president.
Product development, research and quality control
laboratory related to mfg. basic perfume and flavoring
specialties.

SEILL, PUTT & RUSEY, INC.,
16 East 34th St., New York 16, N. Y.
Stephen S. Voris, Ph.D., president.
Consulting and analytical chemists. Laboratory ser-
vices include insecticides, crude drugs, pharmaceuticals,
essential oils, food products.

LOUIS L. SHAPIRO,
72 Orange St., Brooklyn 1, N. Y.
Chemical consultant. Laboratory services include
fats, oils, esters, fatty acids, detergents, cosmetics,
adhesives, product development, research, quality con-
trol.

FOSTER D. SNELL, INC.,
29 West 15th St., New York 11, N. Y.
Dr. Foster Dee Snell, president.
Cyril S. Kimball, vice president.
Leonard C. Cartwright, secretary.
An organization of consultants, including chemists,
chemical engineers, biologists, bacteriologists and medi-
cal personnel. The staff includes about 90 technically
trained individuals. There are two Divisions: Supplee
Laboratories, Bainbridge, N. Y., to which please refer;
also Crippen & Erlich Laboratories, Inc., 1138 E. North

Ave., Baltimore 2, Md., Dr. Chester A. Snell, vice pres.
We show the latter Division in our reference at Balti-
more, Md. Also please see the Snell operation's West
Coast office, Biochemical Procedures, Inc., 8350 Wilshire
Blvd., Beverly Hills, Calif., under the direction of S.
Louis Gaines.

E. R. SQUIBB & SONS, Division of Olin Mathieson Chemical
Corporation,
745 Fifth Ave., New York 22, N. Y.
J. J. Toohy, general manager.
Roland J. Dahl, director of research & devel-
opment.

This is one of the operating divisions of Olin Math-
ieson Chemical Corporation, same address. Its major pre-
duction is ethical pharmaceuticals, including antibiotics
and nutritional products; also to some extent medical spe-
cialties and household drug products. The principal man-
ufacturing plant is at New Brunswick, N. J., and associa-
ted with the Division at that location is the Squibb Insti-
tute for Medical Research. Please see our reference un-
der both these titles at New Brunswick, N. J.

STANDARD BRANDS, INCORPORATED,
595 Madison Ave., New York 22, N. Y.
Dr. William R. Johnston, vice president &
director of research.

This is general offices of the company. The corpora-
tion's manufactured products include numerous special
food items under well-known brand names. The company's
largest plant, that of the Manufacturing Division, at
Peekskill, N. Y., includes 101 buildings; the products
are principally yeast, but also include gin, spirits,
vinegar, etc. Please see our reference to the company's
Peekskill Testing Laboratories at this location. The pri-
ncipal research facilities of the corporation are The
Fleischmann Laboratories, at Stamford, Conn., moved not
long since to that location from New York City. We make
separate reference to these facilities under title as sta-
ted. The laboratories are particularly concerned with
manufacturing yeast, yeast products and other nutrition
specialties for the pharmaceutical and food trades. We
show other references to laboratories of Standard Brands,
Inc., and plants at various locations, as follows: C. & S.
Division Laboratories, Hoboken, N. J.; Manufacturing Dept.
Laboratories, Indianapolis, Ind.; Pekin Mfg. Branch, Pekin
Ill.; The Fleischmann Malting Co., Chicago, Ill., and Min-
neapolis, Minn.; Frozen Products Division, Kansas City, Mo.

STAUFFER CHEMICAL COMPANY,
380 Madison Ave., New York 17, N. Y.
Dr. C. L. Arnold, director of research.
This company's agricultural research laboratory is
Mountain View, Calif., to which please refer. Laborato-
ries of the Eastern Research Division, at Chaucey, N. Y.,
in Westchester county, are being materially expanded.

STEIN, HALL & CO., INC.,
285 Madison Ave., New York 17, N. Y.
Paul Kaplan, manager of Technical Division.
Irving Schlakman, chief chemist.
Manufacturers of natural gums, food and pharmaceuti-
cal products. Product development, research and control
laboratories related to this production are located in
plant at 47-32 21st St., Long Island City 1, N. Y.; A.
H. Robbins, manager of laboratories.

STERLING DRUG INC.,
1450 Broadway, New York 18, N. Y.
Theodore G. Klumpp, president.

The corporation is to some extent a holding company,
but as an operating company it manufactures and markets
medicinals and pharmaceuticals, principally proprietaries
and ethicals. Operation is largely through subsidiaries
identified principally with their respective products.
Research and control laboratories are at manufacturing
plants at a number of locations. We show in this connec-
tion Winthrop Laboratories, Myerstown, Pa., and Rensse-
laer, N. Y., also Sterling-Winthrop Research Institute,
in the latter city. Also please see Hilton-Davis Chemi-
cal Co., Cincinnati, Ohio.

STERLING-WINTHROP RESEARCH INSTITUTE,
1450 Broadway, New York 18, N. Y.
This is home office of the Institute, which occupies
laboratory facilities at Rensselaer, N. Y., and to which
please refer. See also Sterling Drug, Inc., 1450 Broad-
way, New York 18, N. Y.

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AR RESEARCH FOUNDATION, INC.,
52 Wall St., New York 5, N. Y.
Dr. Henry B. Hass, president.
Dr. John L. Hickson, assistant to the president.
The Foundation maintains, at 66 Beaver St., New York 5, Y., a laboratory on sugar research and sucrochemistry. also supports research projects which are carried on research institutions, universities and government agencies.

SHINE BISCUITS, INC., Animal Assay Laboratory,
2308 Jackson Ave., Long Island City 1, N. Y.
R. E. Lines, director of the laboratory.
Nutritional assays; related to mfg. food products; includes research and control. This is a unit of Sunshine Biscuits, Inc., 20-10 Thomson Ave., Long Island City, 1, Y.

CHNICAL ENTERPRISES, INC.,
31 South St., New York 4, N. Y.
Alexander Redniss, president.
Dr. G. C. Perri, research director.
Consultants, chemists, engineers. Laboratory services include product development and research on chemicals, pharmaceuticals, fermentation, nutritional products.

ION CARBIDE & CARBON CORPORATION,
30 East 42nd St., New York 17, N. Y.
D. B. Benedict, vice president.
A Division of this corporation is Linde Air Products, whose Tonawanda Laboratory is located at Tonawanda, Y.; please see that reference. Also, the research center of the corporation's Carbide & Carbon Chemicals Co. vision is located at South Charleston, W. Va., to which ease refer.

ITED FRUIT COMPANY,
Pier 3, North River, New York 6, N. Y.
Dr. Hartley Rowe, vice pres. & director of research.
Dr. L. G. Cox, associate director of research.
Dr. N. C. Thornton, director, Division of Tropical Research.
Laboratory on agricultural research at this location; includes product development, research and quality control. Main office of the company, 80 Federal St., Boston 10, Mass. to which please refer for other laboratories Latin America.

S. INDUSTRIAL CHEMICALS CO., Division of National Distillers Products Corporation,
99 Park Ave., New York 16, N. Y.
Dr. Robert E. Hulse, vice president & general manager.
W. P. Marsh, Jr., vice pres. & asst. general manager.
Dr. Stuart Schott, director of research.
This is an operating division of the company, and it now has the responsibility of all chemical operations, including both manufacturing and sales, also research. Its products are largely industrial chemicals, but include also solvents, pharmaceutical products, polyethylene resins, animal feed concentrates and supplements, and pre-mix formulations. The same program centralizes all chemical research in the Division's research laboratories in Cincinnati, Ohio. R. H. Cornwell is director of production; Francis Olmsted is director of development; J. S. Atwood is manager of engineering development; and J. C. Muller is manager of project development - all at the address above. For further reference in this latter connection, please see U. S. Industrial Chemicals Co., Research Laboratories, Cincinnati, Ohio.

UNITED STATES RUBBER CO.,
1230 Avenue of the Americas, New York 20, N. Y.
Dr. S. M. Cadwell, director of research.
This company's Naugatuck Chemical Division, 203 Elm St., Naugatuck, Conn., has as one unit, the Agricultural Chemical Section, with production as indicated. The latter section maintains laboratories at Bethany, Conn., to which please refer.

U. S. VITAMIN CORPORATION,
250 East 43rd St., New York 17, N. Y.
H. B. Burns, president.
Louis Freedman, Ph.D., vice pres. in charge of research.
Pharmaceutical specialties; mfg. and development of

vitamin and mineral nutritional preparations. This is main office of the corporation; plant and laboratories at Yonkers, N. Y., to which please refer. A division is Arlington-Funk Laboratories, concerning which we make separate reference, also at Yonkers. Subsidiaries include H. E. Dubin Laboratories, Inc.; Dietetic Research Laboratories, Inc.; Professional Laboratories, Inc.

VERAX PRODUCTS, INC.,
116 Fourth Ave., New York 3, N. Y.
Jerome D. Schwartz, president.
Pharmaceutical chemists. Laboratory related to mfg. and research in parenteral, pharmaceutical and organic chemicals.

VICK CHEMICAL CO.,
122 East 42nd St., New York 17, N. Y.
Edward L. Mabry, president.
Maurice L. Moore, Ph.D., vice pres., research.
This is an operating company, with an important production and research laboratories at Greensboro, N. C. However, a major part of its business is conducted through a group of subsidiary companies, each operating under its own name. There are five of these subsidiaries at the present time, each including manufacturing and research, and we make separate reference to each of them, as follow: The William S. Merrell Company, Cincinnati, Ohio; Hess & Clark, Inc., Ashland, Ohio; Jensen-Salsbury Laboratories, Inc., Kansas City, Mo.; J. T. Baker Chemical Co., Phillipsburg, N. J.; Prince Matchabelli, Inc., Bloomfield, N. J.

WARD BAKING COMPANY, Central Laboratory,
367 Southern Blvd., New York 54, N. Y.
Gaston Dalby, director of the laboratory.
Central laboratory, consisting of analytical and research divisions, and an experimental bakery. Concerned with ingredients, materials, process and products control and research related to and resulting from problems of the baking industry. Main office of Ward Baking Company is 475 Fifth Ave., New York 17, E. A. McLaughlin, pres.

WARNER-LAMBERT PHARMACEUTICAL CO.,
113 West 18th St., New York 11, N. Y.
Alfred E. Driscoll, president.
Manufacturers of proprietaries, ethical pharmaceutical specialties, cosmetic. This is headquarters office; a division is Warner-Chilcott Research Laboratories, Morris Plains, N. J. The latter is the principal research facility; please see our reference at the location indicated. In fact at this writing a general administration building is approaching completion at Morris Plains. A recent acquisition of the company is Emerson Drug Co., Baltimore, Md., now merged with Warner-Lambert. See also our reference to Lamber-Hudnut Manufacturing Laboratories, Inc., Lititz, Pa.

WINTHROP LABORATORIES,
1450 Broadway, New York 18, N. Y.
Dr. Theodore G. Klumpp, president.
This is a division of Sterling Drug, Inc., same address. Laboratories are at Myerstown, Pa., and Rensselaer, N. Y., to all of which please refer.

NIAGARA FALLS
HOOKER ELECTROCHEMICAL COMPANY, Research & Development Department,
Buffalo Ave., Niagara Falls, N. Y.
Dr. J. H. Brunn, director of research & development.

J. S. Sconce, manager of research.
J. E. Beanblossom, manager of development.
P. F. Casella, head, patent section.

Manufacturer of chlorine, caustic, chlorinated organics, Hetrox resins and plastics. Product development and research laboratories related to this production. Works and control laboratories at all of the company's plants. This company's Durez Division, Research Laboratory, located at LeRoy, N. Y., Dr. W. H. Prahl in charge of research.

NORWICH
THE NORWICH PHARMACAL CO., Eaton Laboratories,
17 Eaton Ave., Norwich, N. Y.
L. Eugene Daily, M.D., vice president.
William B. Stillman, Ph.D., director of research & development.
Research and control laboratory related to mfg. pharmaceuticals. D. M. Copley, chief chemist.

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SHEFFIELD FARMS COMPANY, INC., Sheffield Chemical Division.

P. O. Box 630, Norwich, N. Y.
John R. Borst, general manager.
F. A. Baldauski, product and sales manager.
G. C. Hooks, technical director.

Product development and quality control laboratory at this location related to mfg. refined and edible chemicals from milk, for food, pharmaceutical and biochemical applications. This is a unit of National Dairy Products Corporation, 260 Madison Ave., New York 16, N. Y. An affiliate doing basic research in milk chemicals is National Dairy Research Laboratories, Inc., Oakdale, L.I., N.Y., to which please refer.

OAKDALE

NATIONAL DAIRY RESEARCH LABORATORIES, INC.,
Oakdale, L.I., N. Y.
Dr. Arnold H. Johnson, president.
Dr. Byron H. Webb, director of research.
D. H. Bornor, director of commercial development.

National Dairy Research Laboratories include four principal subdivisions, namely: animal feeds and nutrition laboratory, Dr. S. M. Weisberg, laboratory chief; chemical products laboratory, Dr. E. G. Stimpson, laboratory chief; dairy products laboratory, Dr. R. Whitaker, laboratory chief; fundamental research laboratory, Dr. F. W. Barber, laboratory chief.

The facilities include the following: Analytical laboratories, baking laboratory, biochemical research laboratory, chemical processing facilities, chromatography laboratory, dairy technology pilot plant, drum and spray-drying facilities, engineering research and development, enzyme research laboratory, fermentation laboratory and pilot plant, food acceptance laboratory.

Also there are: food research and technology facilities; ion-exchange laboratory and pilot plant; laboratory for microbiological assay of vitamins, amino acids, and peptides; microbiological research laboratory; organic chemical research laboratory; physico-chemical research laboratory, including ultracentrifuge, electrophoresis, and light-scattering equipment; radio-isotope laboratory; vitamin assay laboratory; waste disposal research facilities; water testing laboratory. The library has 4,400 volumes. The personnel, 1956, included 110 technical, 70 service. National Dairy Research Laboratories, Inc., is a subsidiary of National Dairy Products Corporation, 260 Madison Ave., New York 16, N. Y.

OSSINING

COLLETT-WEEK CORPORATION,
Quimby St., Ossining, N. Y.
Bjarne Aasrud, president.
Yaro Smirnoff, vice president.
Frank Sevigne, research director.

Research and control laboratory related to mfg. fisheries products (including natural Vitamin A and natural Vitamin D concentrates), cholesterol, chlorophyll derivatives, reserpine and plant extractives.

GALLOWHUR CHEMICAL CORPORATION,

North Water St., Ossining, N. Y.
Dr. Sylvan I. Cohen, vice president, research.
Dr. Martin S. Frant, chief research chemist.

Manufacturer, agricultural fungicides, mildew-proofing chemicals, slimicides for paper industry, dye assistants, quaternary ammonium germicides, industrial preservatives, pharmaceuticals and intermediates. The corporation maintains research, development and control laboratories at the above address.

OZONE PARK

POLYTECHNIQUE LABORATORIES,
13049 Lefferts Blvd., Ozone Park 16, N. Y.
Dr. Walter J. Beichert, owner and chief chemist.
Analytical and consulting chemists. The laboratory specializes in consultation, research, development, experimental work, and organic and inorganic analyses covering a large variety of industrial fields such as drugs, foods, liquors, oils and fats, and others. Formulae are developed.

PEARL RIVER

AMERICAN CYANAMID COMPANY, Pearl River Research Laboratories,
Pearl River, N. Y.
Dr. B. W. Carey, director of the Pearl River Research Laboratories.
Dr. R. P. Parker, director of research.
The research at this location is carried out for the Lederle Laboratories Division and the Fine Chemicals Di-

vision. These divisions are leading manufacturers of biologicals, both human and veterinary, pharmaceuticals, the antibiotics, vitamin products, glandular products; also pollen antigens, allergenic extracts, diagnostic agents, etc. At this location all research of American Cyanamid Co. in the pharmaceutical and biological field is now centralized. A building program now under way will provide additional accommodations for the various sections, including fine chemicals, medicinal chemicals, experimental therapeutics, pharmaceuticals, drugs and sutures, viral and rickettsial, and others. Continuing the personnel of the staff: Dr. H. R. Cox, director of viral and rickettsial research. Dr. T. H. Jukes, director of nutrition and physiology research. Dr. J. T. Litchfield, Jr., director of experimental therapeutics research. Dr. J. H. Williams, director of medicinal chemical research. Dr. J. M. Ruegsegger, director of clinic research. Dr. F. E. Stirn, director of pharmaceutical product development.

PEEKSKILL

FRANCIS EARLE LABORATORIES, INC.,
1057 Lower South St., Peekskill, N. Y.
Dr. L. M. Greenstein, President.

Product development, research and control laboratories at this location related to mfg. biochemicals. Includes chemistry and crystallography. The staff includes Dr. A. G. Beaman and Dr. H. A. Miller.

STANDARD BRANDS, INC., Peekskill Testing Laboratories,
Charles Point, Peekskill, N. Y.
Robert L. Weil, director, Manufacturing Division laboratories.

Control laboratories related to mfg. food and nutrition products, pharmaceuticals, organic chemicals, cultures. General offices of Standard Brands, Inc., are 595 Madison Ave., New York 22, N. Y., to which please refer; this is one of the laboratory locations of the Manufacturing Division.

FORT JEFFERSON

OLIN MATHIESON CHEMICAL CORPORATION, Eastern Fertilizer & Pesticide Division,
Port Jefferson, N. Y.
Dr. C. H. Hofrichter, Jr., manager, research & development.

Product development, research and control laboratory related to mfg. "Poco" insecticides; includes chemistry, entomology, plant pathology, physiology, engineering. Main office of the Corporation, 745 Fifth Ave., New York 22, N. Y., to which please refer.

PORT WASHINGTON

CHEMIRAD CORPORATION,
P. O. Box 152, Port Washington, L.I., N. Y.
Dr. Hans Osborg, president & technical director
Chemical research and development. Product development, research and quality control laboratories in physical and organic chemistry. The products include ethylene imine and triethylene melamine.

RENSSELAER

STERLING-WINTHROP RESEARCH INSTITUTE,
Rensselaer, N. Y.
Dr. Maurice L. Tainter, vice president, Sterling Drug Inc., director.

The Institute occupies extensive laboratory facilities at Rensselaer. This is a Division of Sterling Drug Inc., 1450 Broadway, New York 18, N. Y., to which please refer; and another unit of that company is Winthrop Laboratories, 33 Riverside Ave., Rensselaer, N. Y., pharmaceutical manufacturers.

WINTHROP LABORATORIES, Division of Sterling Drug Inc.,
33 Riverside Ave., Rensselaer, N. Y.
Dr. Richard C. Carroll, vice pres. & manager, Rensselaer plant.

Laboratories at this location related to mfg. pharmaceuticals, vitamin and nutrition products. Main office of Sterling Drug Inc., is 1450 Broadway, New York 18, N. Y., to which please refer, also see Sterling-Winthrop Research Institute, Rensselaer, N. Y.

RICHMOND HILL

ENDO LABORATORIES,
84-40 101st St., Richmond Hill 18, N. Y.
Samuel M. Gordon, Ph.D., director of research.

Laboratories concerned with chemical and biological control and research as related to mfg. and development of pharmaceuticals.

ROCHESTER

ECH-NUT PACKING CO.,
1237 East Main St., Rochester 9, N. Y.
Laboratory at this location on mfg. food products;
Alexander J. Carsky, head. Main office of the company,
Nashua, N. Y., to which please refer.

RTICE BROTHERS CO.,
328 Main St. East, Rochester 4, N. Y.
Please see our reference to this company's laboratories at Bergen, N. Y.

STILLATION PRODUCTS INDUSTRIES, Division of Eastman Kodak Company,
755 Ridge Road West, Rochester 3, N. Y.
Norris Embree, director of research.

The Division's laboratory is at this address. Its activities include chemistry and biochemistry of oil-soluble vitamins; high vacuum distillation; chemistry of fats and oils; design of equipment for high vacuum technology. Please see also our reference to Eastman Kodak Company, Rochester 4, N. Y.

ASTMAN KODAK COMPANY,
343 State St., Rochester 4, N. Y.
The Main Research Laboratory is located in Building 59, Kodak Park, address as above; Cyril J. Staud is the director. The activities include research and production, synthetic organic chemicals, and stable isotopes; physical chemical properties of natural and synthetic compounds of high molecular weight; gelatin, cellulose acetate and resins; photographic materials and processes, etc. Assistant directors are: J. A. Leermakers and C. Yutzy. S. W. Davidson is business manager; W. O. Enyon is head of the chemistry division. Please see also our reference to Eastman Kodak Company's Distillation Products Industries Division, Rochester, N. Y.

HE R. T. FRENCH COMPANY, Technical Department,
1 Mustard St., Rochester 9, N. Y.
Dr. J. M. Fogelberg, technical director.
Dr. C. W. Bice, manager, technical research.

Product development, research and quality control laboratory related to mfg. condiments and other food products.

ROUSES POINT

AYERST LABORATORIES, Division of American Home Products Corporation,
Rouses Point, N. Y.

Frank R. Forbes, plant manager.
Manufacturing laboratories at this location; biologicals, hormones, nutrition and pharmaceutical products, antibiotics. Also control, research and product development laboratories. This is the principal mfg. plant in the U. S. of Ayerst Laboratories Division; main office of the Division is 22 East 40th St., New York 16, N. Y., to which please refer.

SARATOGA SPRINGS
THE G. F. HARVEY COMPANY,
8 Wells St., Saratoga Springs, N. Y.
Percy W. Dako, president.
Dr. Jules Diamond, director of research.
H. Brownstein, research chemist.
Research and control laboratories related to mfg. pharmaceutical products; includes organic chemicals, vitamin products, glandular products.

SCHENECTADY

GENERAL ELECTRIC CO., Research Laboratory,
P. O. Box 1088, Schenectady, N. Y.
H. M. Rozendaal, manager of biological studies section.
W. Dexter Bellamy, research associate.
One part of the program at the present time includes studies of the biological effects of radiation with particular reference to radiation sterilization. Offices of General Electric Co. are 570 Lexington Ave., New York 22, N. Y., C. G. Suits, vice president & director of research.

GENERAL ICE CREAM CORPORATION, Research Laboratory,
101 Nott Terrace, Schenectady 1, N. Y.
A. H. Bayer, director of research & production.
Research and control laboratory related to mfg. ice cream and allied products. This is also the address of the company's general offices.

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SKANEATELES FALLS

COWLES CHEMICAL COMPANY, Research Laboratory,
Skaneateles Falls, N. Y.

Dr. John B. Davidson, research director.

Research and development of products and processes for sanitation control in the food industries. The company manufactures inorganic and organic chemicals, industrial cleaning chemicals, detergents and sanitizers. Main office 7016 Euclid Ave., Cleveland 3, Ohio, to which please refer.

SYRACUSE

BRISTOL LABORATORIES, INC.,

P. O. Box 657, Syracuse 1, N. Y.

Dr. Philip I. Bowman, executive vice president.
Dr. Amel R. Menotti, vice pres.-director of research.

Dr. Charles H. Mann, vice pres.-medical director. Research and control laboratories related to mfg. pharmaceuticals; antibiotics including tetracycline, penicillin; organic chemicals. Bristol Laboratories, Inc., is a subsidiary of Bristol-Myers Company, 630 Fifth Ave., New York 20, N. Y., to which please refer.

DAIRYMEN'S LEAGUE CO-OPERATIVE ASSOCIATION, INC.,

General Laboratory & Research,

402 Park St., Syracuse 8, N. Y.

J. L. Hileman, director of laboratories.

Producing and marketing "Dairylea" milk products. The laboratory is related to certain aspects of quality control within the manufacturing plants of the Dairymen's League, and to research on dairy products. Those aspects of quality control having to do with milk procurement and farm inspection are independent of this laboratory and are under Dr. R. W. Metzger, director of quality control.

SCIENTROL, INC., CO-OPERATIVE,

912 University Bldg., Syracuse 2, N. Y.

Walter Page, general manager.

This co-operative's laboratory located at 3228 University Ave., Madison 5, Wis., to which please refer.

TONAWANDA

LINDE AIR PRODUCTS COMPANY, Tonawanda Laboratory,

P. O. Box 44, Tonawanda, N. Y.

G. H. Wagner, manager, research.

R. M. Milton, manager, development.

Product development, research and control laboratory, includes chemistry, physics, metallurgy, nuclear science. G. J. Boshoff, supt., engineering laboratory; Dr. A. L. Bayes, manager, silicones; H. V. Mosby, business manager. This is a Division of Union Carbide & Carbon Corporation, 30 East 42nd St., New York 17, N. Y., and at that address is Dr. L. I. Dana, vice president, research, Linde Air Products Co. Other laboratories of Linde Air Products Co., include Speedway Laboratories, Speedway, Indianapolis, Ind.

TUCKAHOE

BURROUGHS WELLCOME & CO., (U.S.A.) INC., Wellcome

Research Laboratories,

1 Scarsdale Road, Tuckahoe 7, N. Y.

Brig. Gen. John R. Wood, vice pres. & director of research.

Edwin J. de Beer, Ph.D., associate director.

George H. Hitchings, Ph.D., assoc. director.

The laboratories are concerned with research in medical sciences directed toward new drugs; also including organic chemicals, glandular products and vitamins. This address is also general offices of the company.

UPTON

BROOKHAVEN NATIONAL LABORATORY,

Upton, Long Island, N. Y.

Reference to this important establishment of the Atomic Energy Commission is included in our general reference to U. S. government departments, Washington, D.C., to which please refer.

WAVERLY

KASCO MILLS, INC., Research Department,

Lock Box 70, Waverly, N. Y.

Victor Heiman, Ph.D., director of research.

Product development, research and quality control laboratory, also research farm, at this location, related to mfg. stock feed, dog food. Others on the staff, L. L. Peterson, C. W. Roelle. This is a Division of Corn Products Sales Co., 435 Fulton St., Waverly, N. Y. Laboratory also at Toledo, Ohio.

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WEST HAVERSTRAW

KAY-FRIES CHEMICALS, INC.,

West Haverstraw, N. Y.

Dr. Leonard Nicholl, director of research.

Product development, research and control laboratory at this location related to mfg. pharmaceutical intermediates. Offices also at 180 Madison Ave., New York 16, N. Y.

WHITE PLAINS

GENERAL FOODS CORPORATION,

250 North St., White Plains, N. Y.

Roy H. Walters, vice president, research.

This is general offices of the corporation. The business is organized in a considerable number of divisions, each of which, speaking in general, is identified by its title indicating the brand name or describing the respective manufactured products. These divisions represent manufacturing plants at locations from Maine to California, and their products extend into practically all types of packaged food products. Laboratories related to all these products and processes are at many of these manufacturing plants. We make separate reference to only a few of them, comparatively speaking, which perhaps are typical in a sense but by no means a summary of the type and variety of the products. The references are as follows: Bireley's Division, Hollywood, Calif.; Iglenheart Bros., Jell-O Division, Evansville, Ind.; Birds Eye Division, Boston, Mass., and Albion, N. Y.; Walter Baker Chocolate & Cocoa Division, Dorchester, Mass.; Atlantic Gelatin Division, Woburn, Mass.; Post Cereals Division, Battle Creek, Mich.; Franklin Baker Division, Hoboken, N. J.

THE NESTLE COMPANY, INC.,

2 William St., White Plains, N. Y.

C. L. Angst, manager of technical services.

This is general offices of the company. Product development, research and quality control laboratory on chocolate products at Fulton, N. Y., to which please refer; also see laboratory at Marysville, Ohio, on canned milk, infant foods, powdered coffee, soluble tea, etc.

WOODSIDE

SCHWARZKOPF MICROANALYTICAL LABORATORY,

56-19 37th Ave., Woodside 77, N. Y.

Otto Schwarzkopf, Ph.D., director.

Microanalyses, microanalytical research, research on analytical methods.

YONKERS

ARLINGTON-FUNK LABORATORIES, Division of U. S. Vitamin Corporation,

26 Vark St., Yonkers, N. Y.

H. B. Burns, president.

Louis Freedman, Ph.D., vice pres. in charge of research.

George Ungar, M.D., Sc.D., director, dept. of pharmacology.

Laboratories and manufacturing at this location, related to biologicals, pharmaceuticals, etc. Please see also our reference to U. S. Vitamin Corporation, 250 East 43rd St., New York 17, N. Y.

GEIGY CHEMICAL CORPORATION,

P. O. Box 430, Yonkers, N. Y.

This is mailing address of the company; please see our reference at Ardsley, N. Y.

NEPERA CHEMICAL CO., INC.,

21 Gray Oaks Ave., Yonkers, N. Y.

Dr. Daniel M. Green, director of research.

Dr. T. I. Fand, director of development and engineering.

Research and control laboratory related to mfg. pharmaceuticals, organic chemicals. Dr. F. E. Anderson, head of chemistry; Dr. E. Salgado, head of biology.

U. S. VITAMIN CORPORATION,

26 Vark St., Yonkers 1, N. Y.

Laboratories and manufacturing plant at this location. Related to mfg. vitamin products, nutrition products, pharmaceuticals. Main office of the corporation, 250 East 43rd St., New York 17, N. Y., at which location is Louis Freedman, Ph.D., vice president in charge of research. A division of the corporation is Arlington-Funk Laboratories, also with laboratories and factory at the Yonkers address. Please see our reference to the latter, also to the corporation, New York City.

NORTH CAROLINA

DURHAM

LIGGETT & MYERS TOBACCO CO., Research Laboratory,

West Main St., Durham, N. C.

Dr. F. R. Darkis, director of research.

Product development and research laboratories relate to mfg. tobacco products. Include chemistry, physics, bacteriology, engineering. Others on the staff: Dr. E. J. Hackney, Dr. W. W. Bates, Dr. Max Samfield. Main office of the company, 630 Fifth Ave., New York 20, N. Y., which is also the office address of W. A. Blount, vice president. Other laboratories of the company at St. Louis, Mo.

MOREHEAD CITY

WALLACE MENHADEN PRODUCTS, INC.,

Morehead City, N. C.

Theodore M. Miller, research director

Product development, research and quality control laboratories at this location related to mfg. menhaden fish meal, menhaden fish oil, condensed menhaden fish solubles. Include fats and oils chemistry, bio-chemistry, nutrition, analytical chemistry, proteins and amino acids, vitamins, unknown growth factors, engineering and processing. Main office of the company, New Orleans, La., to which please refer.

PISGAH FOREST

ECUSTA PAPER CORPORATION, Subsidiary of Olin Mathieson Chemical Corporation,

Pisgah Forest, N. C.

This is the Paper Division Laboratory of the Olin Mathieson corporation. It includes research relating to the manufacture and use of cigarette paper, other fine papers, and cigarette filter tips; also the study of the chemistry and physics of cellulose fibers of diverse origin, and the development and use of various types of cellulose pulps. Milton O. Schur, manager of research & development. General offices of Olin Mathieson Chemical Corp. are New York, N. Y., to which please refer.

WINSTON-SALEM

R. J. REYNOLDS TOBACCO COMPANY,

Fourth & Main Sts., Winston-Salem, N. C.

Kenneth H. Hoover, director of research.

The research department occupied, in January, 1953, a new and thoroughly modern research building. The organization is based on six departments, one of them headed by Gerald A. Snyder, director of biochemical research. The others include analytical, chemical and agricultural research and chemical engineering.

NORTH DAKOTA

GRAND FORKS

NORTH DAKOTA MILL & ELEVATOR

Grand Forks, N. Dak.

Control laboratory related to flour milling and mfg. feeds, soybean and linseed oil. Chemists: Herbert Morque and H. G. Jordheim.

OHIO

AKRON

THE C. P. HALL COMPANY,

414 S. Broadway, Akron 8, Ohio.

Please see our reference to The C. P. Hall Co. of Illinois, Chicago, Ill., product development and quality control laboratory at that location.

ASHLAND

HESS & CLARK, INC.,

Ashland, Ohio.

Frank N. Getman, president.

Paul D. Harwood, Ph.D., director of research.

James E. Guthrie, D.V.M., research veterinarian.

Research laboratory related to development of feed medication products and animal health pharmaceuticals. Functions include synthetic chemistry, pharmacy, parasitology, pharmacology, bacteriology and veterinary medicine; also product development and quality control. This is subsidiary of Vick Chemical Co.; please see that reference, 122 East 42nd St., New York 17, N. Y.

BARBERTON

YODER BROTHERS, INC.,

Barberton, Ohio.

Harold F. Yoder, president.

Robert Hare, plant physiologist, chief chemist Growers and propagators. Product development, research and control laboratory in botany and plant physiology. Others on the staff: William E. Duffett and Conrad Olson.

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BEDFORD

N VENUE LABORATORIES, INC.,
270 Northfield Road, Bedford, Ohio.
F. S. Giffin, vice president.

J. R. Leonards, Ph.D., research director.

Related to mfg. hormone products, antibiotics, pharmaceuticals. Executive offices of the firm are 1112 Park dg., Pittsburgh 22, Pa. Branch laboratory and farms located at Wittman, Talbot County, Md.

BOWLING GREEN

J. HEINZ COMPANY, Crop Research Laboratory,
Bowling Green, Ohio.

C. A. John, head, crop research department.

One of four parts which make up the company's Food Research Department is crop research, whose activities are largely centered in the Crop Research Laboratory, at this location. The major work is plant breeding on tomatoes and cucumbers for quality and yield improvement, along with disease resistance, soil improvement, spray program and evaluation of all vegetable breeding work. Also on the staff, C. C. Wyatt. Please see also our reference to H. J. Heinz Company, Pittsburgh, Pa.; J. Hutchings, manager of food research.

BRYAN

AUL B. ELDER COMPANY,
805 E. Mulberry St., Bryan, Ohio.

Howard E. Parker, director of control.

Pharmaceutical manufacturers. Control laboratory on pharmaceuticals, parenterals and vitamin products. D. M. Alllett, chief chemist.

CHAGRIN FALLS

ENERAL BIOCHEMICALS, INC.,
Laboratory Park, Chagrin Falls, Ohio.

Paul R. Frohling, president.

Research and control laboratory related to mfg. food, vitamin and pharmaceutical products, animal-poultry feed supplements.

CINCINNATI

ANALYTICAL CHEMISTS OF CINCINNATI,
4 West 7th St., Cincinnati 2, Ohio.

Willard I. Upson, director.

Analytical and consulting chemists; includes pharmaceuticals, food products, oils, greases, tallow, water, sewage, fertilizers, liquor; also research and control of manufacturing.

THE DRACKETT COMPANY,
5020 Spring Grove Ave., Cincinnati 32, Ohio.

F. E. Calvert, research director.

Control and research laboratory related to soybean processing, mfg. food products, chemical specialty products.

EMERY INDUSTRIES, INC.,
4300 Carew Tower, Cincinnati 2, Ohio.

Robert Van Tuyle, vice president in charge of mfg.

Richard G. Kadesch, research director.

Manufacturers of fatty acids and derivatives, emulsifiers, textile chemicals, drycleaning chemicals, and plasticizers. Product development, research and control laboratory related to this production. Includes chemistry and chemical engineering. Joseph L. Trauth, chief chemist; Alex C. Brown, chief chemical engineer.

HILL TOP RESEARCH INSTITUTE, INC.,

925 Wm. Howard Taft Road, Cincinnati 6, Ohio.

Branch office and laboratory at this location; main office under the same name at Miamiville, Ohio, to which please refer.

HILTON-DAVIS CHEMICAL CO., Division of Sterling Drug, Inc.,

2235 Langdon Farm Road, Cincinnati 13, Ohio.

Dr. Donald S. Hirtle, director of research.

Robert K. Johnson, director of analytical laboratories.

Manufacturers of fine and industrial chemicals. Research and control laboratory related to this production. Main office of Sterling Drug, Inc., 1450 Broadway, New York 18, N. Y., to which please refer.

THE ANDREW JERGENS COMPANY, Skin Research Laboratory,

2535 Spring Grove Ave., Cincinnati 14, Ohio.

J. D. Nelson, general manager.

Philip D. Adams, Ph.D., director of research.

Skin Research Laboratory is a department of the firm indicated. Research and control laboratories related to mfg. cosmetics and soaps.

E. KAHN'S SONS CO.,

3241 Spring Grove Ave., Cincinnati 25, Ohio.

J. A. Dalve, laboratory director.

Meat packers; research and development laboratories working on all meat products and shortening.

KENTUCKY CHEMICAL INDUSTRIES, INC.,

Box 37, Winton Place Station, Cincinnati 32,

Ohio.

R. W. MacGregor, president.

Research and quality control laboratory related to mfg. animal feeds; includes animal nutrition. Milton Hendrixson, chief chemist.

THE KROGER COMPANY, Kroger Food Foundation,

1212 State Ave., Cincinnati 4, Ohio.

George Garnatz, director.

The Foundation is a technical organization within The Kroger Co., 35 E. Seventh St., Cincinnati 2, Ohio. It is engaged in laboratory research related to food products, controls quality and develops new products. It affords technical service for all departments of the company, also provides an advisory service for housewives.

THE WM. S. MERRELL COMPANY, Research Laboratories,

Cincinnati 15, Ohio.

Nelson M. Gampfer, president.

Harold W. Werner, Ph.D., vice pres. in charge of research.

Henry R. Kreider, Ph.D., assoc. director of research, charge pharmaceutical development.

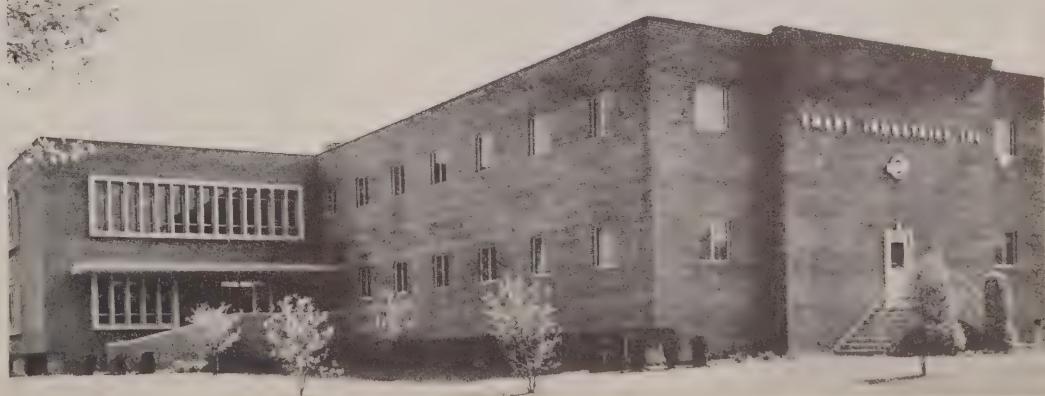
M. G. Van Campen, Jr., Ph.D., assoc. director of research, charge organic chemistry.

E. F. Van Maanen, Ph.D., assoc. director of research, charge biological sciences.

Related to mfg. pharmaceuticals, antibiotics, synthetic medicinals, biologicals, vitamin products. Thomas R. Blohm, Ph.D., head of biochemistry; Barbara B. Brown, Ph.D., head of pharmacology; F. Joseph Murray, Ph.D., head

- At right →

The Twitchell Memorial Laboratories, facility of Emery Industries, Inc., Cincinnati, Ohio were dedicated in June 1955. Dr. Ernest Twitchell is honored as Emery's first research chemist. It includes the laboratories of the Research Dept. and those of the Chemical Engineering Dept., also the Development and the Service Laboratories; total of 28 individual laboratories.



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of microbiology; Raymond C. Pogge, Ph.D., head of medical research; George O. Sharp, Ph.D., head of analytical and control; Charles R. Thompson, head of endocrinology and pathology. This is a subsidiary of Vick Chemical Co.; please see that reference, 122 East 42nd St., New York, 17, N. Y.

THE MIAMI MARGARINE COMPANY,
107 E. Pearl St., Cincinnati 8, Ohio.
Charles H. Struble, laboratory director.
Product development, research and quality control laboratory related to mfg. margarine, shortening, etc.

NATIONAL DISTILLERS PRODUCTS CORPORATION,
120 78th St., Cincinnati 16, Ohio.
Control laboratory in plant at this location, related to mfg. alcoholic beverages and by-products.
Richard G. Ernst, chief chemist. Executive offices of the corporation are 99 Park Ave., New York 16, N. Y. to which please refer.

THE PROCTER & GAMBLE COMPANY, Miami Valley Laboratories, P. O. Box 175, Cincinnati 31, Ohio.
N. B. Tucker, director, Research Division.
Product development and research laboratories related to mfg. soaps, detergents, foods, functional cosmetics. Includes chemistry, all branches, chemical engineering, engineering development. Others on the staff: V. Mills, R. L. Kramer, L. W. Beck, J. R. Schaeffer, W. Lange. The location is Venice, Ohio; mailing address as above. Executive offices of Procter & Gamble Co. are 6th & Main Sts., Cincinnati 17, Ohio; J. G. Pleasants, vice president in charge of research & development.

RED TOP BREWING CO.,
242 W. McMicken Ave., Cincinnati 14, Ohio.
Control laboratory related to mfg. beverages and yeast products. Israel R. Cohen, chemist.

ROBERT A. TAFT SANITARY ENGINEERING CENTER, Public Health Service, U. S. Department of Health, Education & Welfare, 4676 Columbia Parkway, Cincinnati 26, Ohio.
Harry G. Hanson, director.
Joseph E. Flanagan, Jr., assistant director.

The Center carries on research and investigations concerned with air pollution, water supply, water pollution, waste treatment and disposal, milk and food sanitation, and radiological health. Technical assistance is extended to state and local official agencies on problems in these fields, and the Center conducts a specialized training program in its field of activities for professional members of state and other governmental agencies and industry.

The Center is a part of the Division of Sanitary Engineering Services, Bureau of State Services, U. S. Public Health Service, Fourth & D Sts. S.W., Washington 25, D. C. Dr. Otis L. Anderson is chief of the Bureau of State Services. The executive staff of the Division of Sanitary Engineering Services includes the following: Chief, Mark D. Hollis; assistant chief, Wesley E. Gilbertson; assistant chief, research & development, Vernon G. MacKenzie; executive officer, John R. McBride.

The Center occupies a new, modern building in Cincinnati which affords 159,000 square feet of floor space, of which the major portion is devoted to laboratory use. Special facilities at the Center include animal quarters, instrument rooms, reference library and lecture rooms. Facilities for study of water and sewage treatment, and of equipment for milk and food sanitation and similar uses, are provided in experimental wings equipped with overhead cranes and other specialized appurtenances. Constant-temperature rooms are provided for special laboratories in microbiology and aquatic biology. The Center operates field stations for projects which can be undertaken more effectively at other locations, and it has ten mobile laboratory units mounted in trailers available for field use.

U. S. INDUSTRIAL CHEMICALS CO., Research Laboratories, 1275 Section Road, Cincinnati 37, Ohio.
Dr. Stuart Schott, director of research.
This company is a division of National Distillers Products Corporation. At this location, the Division now centralizes all chemical research resulting from the recent broad program under which the Division assumed responsibility for all chemical operations of its own and the parent and affiliated companies. Commencing prior

to the inauguration of this program, the facilities here were successively augmented and expanded, and quite recently a pilot plant was added. The group of buildings now affords more than 36,000 square feet of space, and accommodates a technical staff of more than 125. The production of the Division is largely industrial chemicals, but also includes pharmaceutical products, animal feed concentrates and supplements, and pre-mix feed formulations. Not only that, but these laboratories are the research division of the parent company's many plants manufacturing distilled beverages. Please see our reference to the Division's main office, also that of the parent company as stated above, both at New York, N. Y.

CLEVELAND

CARLING BREWING COMPANY,
9400 Quincy Ave., Cleveland 6, Ohio.
Product development and quality control laboratory related to mfg. "Black Label" beer and "Red Cap" ale. Includes biochemistry, chemistry. George E. Bredt, chief chemist. This company is an affiliated unit of Canadian Breweries, Ltd., Toronto, Ont., to which please refer.

COWLES CHEMICAL COMPANY,
7016 Euclid Ave., Cleveland 3, Ohio.
Manufacturer of inorganic and organic chemicals, industrial cleaning chemicals, detergents and sanitizers. This is main office of the company. Research laboratory Skaneateles Falls, N. Y., to which please refer.

THE GERSON-STEWART CORPORATION,
Lisbon & Buckeye Roads, Cleveland 4, Ohio.
A. D. Imhof, chief chemist.
Laboratory related to mfg. disinfectants, surgical soaps, detergents and floor waxes.

THE GLIDDEN COMPANY,
900 Union Commerce Bldg., Cleveland 14, Ohio.
Dwight P. Joyce, chairman and president.
P. E. Sprague, vice president, chairman of research and patent committees.
William von Fischer, co-ordinator of research and development.

The company operates five divisions, each of which has plants at a number of locations in the United States and Canada; research and quality control laboratories are in all plants. Of the several divisions, two are important for the purposes of this compilation: The Food Division (Durkee Famous Foods), Harvey L. Slaughter, vice president; G. Norman Bruce, chairman of research committee. And the Chemurgic Division, Willard C. Lighter, vice president; Dr. J. Wayne Cole, chairman of division research committee. Products of the Food Division are shortening, cooking oils, salad oils, margarine oils, salad dressing, margarine, shredded coconut, spices and specialty products. Plants of the Food Division are located in Chicago, Ill.; Louisville, Ky.; Macon, Ga.; Norwalk, Ohio Elmhurst, N. Y.; Berkeley, Calif. We make separate reference to research and control laboratories at all of these plants except Macon and Norwalk. Plants of the Chemurgic Division are located in Chicago, Ill., and Indianapolis, Ind. At the same Chicago location is the company's Central Organic Research Laboratory; we make separate mention of the latter, and in connection with that reference we indicate the products of the Chemurgic Division.

THE MUSTEROLE COMPANY,
1748 East 27th St., Cleveland 14, Ohio.
John K. Castle, vice president.
Research and quality control laboratory related to mfg. Musterole ointment.

NUTRITIONAL BIOCHEMICALS CORPORATION,
2010 Miles Ave., Cleveland 28, Ohio.
J. L. Barker, office manager.
Research and control laboratory related to mfg. amino acids, nucleo proteins, enzymes and miscellaneous biochemicals. M. C. Thomas, Ph.D., director.

OHIO CHEMICAL & SURGICAL EQUIPMENT CO., A Division of Air Reduction Company, Inc.,
1177 Marquette St., Cleveland 14, Ohio.
The company's chemical laboratory at this location. Please see our reference to above company at Madison, Wis.

OHIO 59

STANDARD OIL COMPANY OF OHIO, Chemical & Physical Research Division,

2127 Cornell Road, Cleveland 6, Ohio.

Dr. E. C. Hughes, research manager.

The company's research laboratories on petroleum products are at this location. Main office of the company, Midland Bldg., Cleveland 15, Ohio. Process and product development laboratories are at 3092 Broadway, Cleveland, Ohio.

STRONG COBB & COMPANY, INC.,

2654 Lisbon Road, Cleveland 4, Ohio.

Dr. William E. Gaunt, vice pres. & director of laboratories.

Manufacturing chemists, private formulae. A. H. McCormick, associate director, research & development; F. D. Weston, associate director, analytical control

O. WAY LABORATORY SERVICE,

2403 Prospect Ave., Cleveland 15, Ohio.

H. O. Way, director.

Includes consultation, research, control of mfg.; biological, bacteriological, biochemical, chemical. F. F. Fischer, chemist; F. J. Zidar, bacteriologist.

COLUMBUS

AGRICULTURAL LABORATORIES, INC.,

1147 Chesapeake Ave., Columbus 16, Ohio.

Laboratory related to production of inoculants. J. R. Scott, bacteriologist.

BATTELLE MEMORIAL INSTITUTE,

505 King Ave., Columbus 1, Ohio.

Clyde Williams, president and director.

Battelle's activities include research or development problems in practically all fields of industrial science, in agriculture, and many specialized technologies. Among these might be mentioned, although without special emphasis as compared with other branches of science, chemistry, chemical engineering, electrochemistry, agricultural chemistry, biochemistry and biophysics. The present staff includes more than 2,800 research scientists, technicians, and service personnel. The staff is headed by Dr. Williams, president and director, as above.

Technical directors in the various departments include the following: Frank C. Croxton, chemistry (also assistant director in charge of European operations); Bruce W. Gonser, nonferrous metallurgy; C. H. Lorig, physical & process metallurgy; A. C. Richardson, minerals processing; H. W. Russell, physics; Ralph A. Sherman, fuels & mechanics; Clarence E. Sims, physical & process metallurgy; John D. Sullivan, inorganic chemistry & ceramics. There are assistant technical directors as follows: Maynard M. Baldwin, organic chemistry; Russell W. Dayton, engineering physics; H. A. H. Pray, physical chemistry; C. B. Voldrich, metals fabrication.

The physical plant of Battelle includes eight central buildings which occupy portions of four city blocks in Columbus; and six major laboratory buildings, including four atomic research laboratories, located in the suburban area. The plant in Columbus has an estimated replacement value of 18 million dollars. Laboratories and offices are also maintained in a leased structure not far from the main buildings in Columbus, and a warehouse is available for storage.

One of the buildings at the central site in Columbus is a new chemistry building occupied in the fall of 1955, which now houses seven of the nine divisions of the chemistry department. Other structures completed in 1955 and early 1956 include a suburban administration and laboratory building; a large chemical engineering pilot-plant laboratory specially equipped for processing nuclear fission materials; a swimming pool type research reactor; a reactor development (critical assembly) laboratory; and a hot-cell laboratory.

An agricultural sciences building, which includes a greenhouse and biological and biochemical facilities, is situated on acreage just outside the city limits of Columbus. And 400 acres additional, of farm land owned by the Institute, are used for large-scale field experiments. These sites are the focal points of much of Battelle's agricultural research. In the greenhouse, each of three compartments has individual controls for temperature, humidity and light. The laboratories house soil sterilizers, water "deionizers", and other modern equipment. Dr. R. S. Davidson is chief of Battelle's research in the agricultural and biological sciences.

THE COLUMBUS PHARMACAL CO.,

330 Oak St., Columbus 15, Ohio.

Robert O. Read, president & general manager.

Dr. Christopher H. Costello, scientific

director.

Manufacturing pharmacists. Research and control laboratory related to this production.

THE COLUMBUS SERUM COMPANY,

2025 S. High St., Columbus 7, Ohio.

K. R. Peterson, pres. & general manager.

Pharmaceutical and biological products. Laboratory related to mfg. hog cholera anti-serum and virus.

COLUMBUS VACCINE COMPANY,

765 E. Hudson St., Columbus 11, Ohio.

Mrs. Robert W. Terry, laboratory director.

Control laboratory related to mfg. "Colvac" brand biological products for poultry.

THE COLUMBUS WATER & CHEMICAL TESTING LABORATORY,

4628 Indianola Ave., Columbus 14, Ohio.

F. J. McIntyre, director.

Consulting and research on water, milk, blood testing for hatcheries, sewage treatment, swimming pool operation and control, fertilizers, toxicology.

THE G. FREDERICK SMITH CHEMICAL CO.,

P. O. Box 1611, Columbus 16, Ohio.

G. Frederick Smith, president.

A. H. Smith, vice president.

Laboratory related to manufacturing special purpose organic and inorganic laboratory and process chemicals, also apparatus. G. W. Frank and Alvin Heimbuch, chemists.

THE WARREN-TEED PRODUCTS CO.,

582 W. Goodale St., Columbus 8, Ohio.

R. D. Workman, general manager.

A. G. Worton, scientific director.

Y. C. Campbell, director of laboratories.

Product development, research and control laboratory related to mfg. pharmaceuticals. Includes chemistry, pharmacology, biochemistry, bacteriology.

DAYTON

BOWSER-MORNER TESTING LABORATORIES,

131-141 Bruen St., Dayton 1, Ohio.

R. R. Bowser, Owner-Director.

R. E. Miller, Asst. Director.

Chemical-metallurgical testing engineers. Consulting service includes foods, pharmaceuticals.

THE DAVIES-YOUNG SOAP CO.,

705 Albany St., Dayton 1, Ohio.

R. H. Young, president.

Dr. R. B. Trusler, director of research.

Research and control laboratory on mfg. soaps, detergents, disinfectants, cosmetics, metal cleaners, polishes. The cosmetic mfg. unit is Amole, Inc., Mrs. Gertrude Brunn, gen. manager.

MONSANTO CHEMICAL CO., Inorganic Chemicals Division
Nicholas Road, Dayton 7, Ohio.

Research laboratory related to mfg. chemicals for food, nutrition and cereal products; J. R. Van Wazer, assistant director. Offices of the Division are Terminal Bldg., St. Louis, Mo., and main offices of Monsanto Chemical Co. are 1700 S. Second St., St. Louis 4, Mo.; please see our reference at the latter location.

FOSTORIA

FOSTORIA SERUM CO.,

P. O. Box 109, Fostoria, Ohio.

E. P. Sheeran, vice pres. & supt. of production.

Laboratory related to the production of serums; includes control of mfg.

HAMILTON

PILLSBURY MILLS, INC.,

1010 Eaton Road, Hamilton, Ohio.

Charles K. Sherck, quality control manager.

Quality control laboratory on milling products. Harold I. Reynolds, chief, raw materials and inspection control section. Marvin Byer, chief, process control section. Donald Coles, problems chemist. Main office of Pillsbury Mills, Inc., is Minneapolis, Minn., to which please refer.

60 OHIO

MARYSVILLE

THE NESTLE CO., INC., Control & Research Laboratory,
P. O. Box 70, Marysville, Ohio.
A. R. Mishkin, director of research.
I. A. Striffler, director of control.
Related to mfg. canned milk, infant foods, powdered coffee product, soluble tea product, other food products. This is a department of The Nestle Co., Inc., main office White Plains, N. Y., to which please refer.

MIAMIVILLE

HILL TOP RESEARCH INSTITUTE, INC.,
Miamiville, Ohio.

Robert A. Quisno, president.

This is an independent commercial consulting laboratory working on product development, research and control in bacteriology, pharmacology, toxicity, clinical research, etc. Harry L. Rubenkoenig, technical director; Paul A. Majors, director of laboratories. Branch office, Hill Top Laboratories, Inc., located at 925 Wm. H. Taft Road, Cincinnati 8, Ohio, to which please refer.

NEW KNOXVILLE

BROOKSIDE RESEARCH LABORATORIES, INC.,
New Knoxville, Ohio.

E. R. Kuck, founder & director.

Laboratory engaged in soil, plant and animal nutrition research. Rudolph Ozolins, agronomist; Paul R. Kohler, horticulturist; Harry F. Bernholdt, animal nutrition; Andrew Skapura, service director.

ROSSFORD

GENERAL MILLS, INC., Feed Division,
129 Dixie Highway, Rossford, Ohio.

Paul A. Mullenkoff, chief chemist.

Research & control laboratory related to mfg. live-stock feeds. Main offices of General Mills, Inc., 400 S. Second Ave., Minneapolis 1, Minn., to which please refer.

TOLEDO

MAUMEE CHEMICAL CO.,
2 Oak St., Toledo 5, Ohio.

G. F. Schlaudecker, President.

Product development and research laboratory in organic chemistry, related to mfg. synthetic organic chemicals; also quality control laboratory at same location. Laboratory Director, Dr. Emery B. Miller.

NATIONAL BISCUIT COMPANY, Toledo Mill,

P. O. Box 1528, Central Station, Toledo 3, Ohio.

Control laboratory at this mill related to mfg. food products as indicated, Joe E. Zvanovec, chief chemist. Main office of the company, New York, N. Y., to which please refer.

NATIONAL SEED TESTING SERVICE,

808½ Madison Ave., Toledo 2, Ohio.

Fred S. Emmett, director.

Laboratory related to commercial purity and germination analysis of field and garden seeds.

OWENS-ILLINOIS GLASS CO., Packaging Research Division,
14th & Adams Sts., Toledo 1, Ohio.

Research laboratory related to packaging in glass and plastic containers. H. A. Barnby, director. General offices of the company, Toledo 1, Ohio.

YELLOW SPRINGS

CHARLES F. KETTERING FOUNDATION,
150 E. South College St., Yellow Springs, Ohio.
Eugene W. Kettering, president.

Howard A. Tanner, director of research.

The Charles F. Kettering Foundation supports research at several institutions by research contracts, grants-in-aid, and fellowships. These are mostly concerned with cancer research, soils research, and photosynthesis. The Foundation also operates a laboratory at the above address adjacent to the campus of Antioch College, for the study of solar energy and photosynthesis. A staff of around 35 chemists, physicists, biologists and engineers is employed. The laboratory is a three-story structure with about 32,000 square feet of floor space; and it is completely equipped for all kinds of biochemical research, having machine and electronics shops, tracer laboratory, mass, emission and infra-red spectrographs, etc.

OKLAHOMA

BARTLESVILLE

PHILLIPS PETROLEUM COMPANY, Research Division,
Bartlesville, Okla.

R. W. Thomas, Vice Pres., Research & Development.

J. A. Reid, Director of Research.

Product development and research laboratories at this location related to mfg. petroleum products, fertilizers, chemicals, carbon black, polymers. A very limited amount of work includes biochemistry, bacteriology, entomology and horticulture. Assistant directors of research are: D. E. Carr, T. W. Legatski and W. B. Reynolds. Other laboratories of the company are at Philtex Experiment Station, Phillips, Texas.

OREGON

PORTLAND

CHARLTON LABORATORIES, INC.,

P. O. Box 1048, Portland, Ore.

David B. Charlton, Ph.D., president.

Consultation and research, industry and agriculture; chemical, bacteriological and physical testing, analysis

KRISHELL LABORATORIES, INC.,

1735 S. E. Powell Blvd., Portland 2, Ore.

Dr. Chester A. Schink, manager.

Chemical and biochemical consulting service; includes also mfg. rare organics and biochemicals.

BIOPRODUCTS, INC.,

Warrenton, Ore.

R. T. Carruthers, president.

Lyle Anderson, chief chemist.

Research and control laboratory related to mfg. vitamin products, glandular products, protein and chitin products, feed concentrates, liquid fertilizers.

PENNSYLVANIA

AMBLER

AMERICAN CHEMICAL PAINT CO.,

Ambler, Pa.

R. H. Beatty, director of research.

Manufacturers of growth regulators and herbicides. William Allen, chemical director, agricultural chemicals division; J. M. F. Leaper, senior scientist, agricultural chemicals division.

ARDMORE

ROBINETTE RESEARCH LABORATORIES, INC.,

16 E. Lancaster Ave., Ardmore, Pa.

Hillary Robinette, Jr., president.

Consulting commercial laboratory in textile chemicals, industrial organic chemicals, pharmaceuticals. Includes product development, research and control. Joseph Russian, laboratory manager.

BETHLEHEM

KEYSTONE CHEMURGIC CORPORATION,

R.F.D. 1, Bethlehem, Pa.

Donald G. Carpenter, president.

Dr. Remsen T. Schenck, director of research.

Manufacturer of pharmaceutical and fine chemicals; product development, research and control laboratory related to this production. Also on the staff: August J. Buzas.

CHESTER

SCOTT PAPER COMPANY, Research laboratory,

Welsh St., Chester, Pa.

Product development and research laboratory related to mfg. paper products. Dr. James J. Eberl, director of chemical research.

HERSHEY

HERSHEY CHOCOLATE CORPORATION, Chemical Laboratories,

Hershey, Pa.

E. W. Meyers, chief chemist & director of research.

Manufacturers of chocolate and cocoa; laboratories related to this production. Include research and control of mfg. The company's milk control laboratory at Lebanon, Pa., to which please refer.

HIGH SPIRE

THE WHEATENA CORPORATION, High Spire Flour Mills

Division,

Second & Race Sts., High Spire, Pa.

Laboratory at this location charged with maintaining

ality and uniformity in mfg. cereal products. Robert Kilborn, chemist. Main office of the corporation, hway, N. J.; please see that reference.

LANCASTER
MSTRONG CORK COMPANY, Research Laboratories, Lancaster, Pa.
Edmund Claxton, director of the Research Laboratories.

Research & Development Center at this location, which mbines very extensive facilities of this character serving all of the company's domestic plants and their diversified products. The laboratories of the Center are ouped into four major divisions corresponding to the company's products. In addition there are separate chemistry and physics departments. One of the divisions is the Glass & Closure Section, whose manager is E. C. Emanuel. This section is concerned with the packaging of foods, pharmaceuticals, beverages, cosmetics, industrial chemical and household products, in glass containers and containers sealed with metal or molded screw caps, or own closures. The section includes research in this field, also development of these closures and containers which are manufactured by the company. Consulting service is available to customers; and bacteriological studies are often required, although not a major function of the laboratory.

GENERAL CIGAR CO., INC., Research Laboratory, 602 N. Charlotte St., Lancaster, Pa.

Dr. Walter G. Frankenburg, vice president in charge of research & development.

Product development, research and quality control laboratory at this location related to processing cigar tobacco and mfg. cigars, "White Owl", "Robert Burns", etc. includes chemistry, biochemistry. Main office of the company, 119 West 40th St., New York 18, N. Y.

LEBANON

HERSHEY CHOCOLATE CORPORATION, Lebanon, Pa.

Milk control laboratory at this location, William Snyder in charge. Main office of the corporation, and chemical laboratory, at Hershey, Pa.; please see that reference.

LITITZ

WILBUR-SUCHARD CHOCOLATE CO., INC., Lititz, Pa.

Dr. R. C. Welch, plant superintendent.

A. S. Garner, laboratory director.

Manufacturers of chocolate and cocoa; this is main office. Research and control laboratory related to this production. Mrs. L. L. Hill, chief chemist.

MARIETTA

WYETH LABORATORIES, Biological Laboratories, Marietta, Pa.

Dr. B. Scott Fritz, managing director.

There are 26 operating units in the extensive facilities at this location. The latest of these is a building devoted exclusively to production of polio vaccine. Wyeth Laboratories is a Division of American Home Products Corporation; executive and administrative offices of the division are Radnor, Pa., to which please refer.

MILTON

AMERICAN HOME FOODS, INC., Chef Boy-Ar-Dee Division, Milton, Pa.

J. W. Wagner, manager quality control.

Research and control laboratory at this location, related to mfg. food products. Main office of American Home Foods, Inc., 22 East 40th St., New York 16, N. Y., to which please refer.

MOUNT HOLLY SPRINGS

THE EATON-DIKE MAN CO., Mount Holly Springs, Pa.

C. U. Stevens, technical director.

Manufacturers of filter paper, blotting paper, saturating paper; product development, research and control laboratory related to this production. Includes organic and physical chemistry as applied to paper and pulp products, also process engineering applied likewise.

MYERSTOWN

WHITMOYER LABORATORIES, INC., Myerstown, Pa.

C. W. Whitmoyer, president & gen. manager.

Manufacturing chemists; laboratory includes research and control on vitamin and mineral concentrates, poultry and livestock health products, disinfectants, insecti-

cides. In Canada, Whitmoyer Laboratories, Ltd., Yarmouth, Nova Scotia, to which please refer.

WINTHROP LABORATORIES,

S. College St. & Stoever Ave., Myerstown, Pa.

Dr. Eugene H. Wells, asst. director of control.

Control laboratory related to mfg. vitamin and nutrition products, pharmaceuticals. The company's main office is 1450 Broadway, New York 18, N. Y., to which please refer.

PHILADELPHIA

THE AMERICAN SUGAR REFINING CO., Research & Development Division,

Foot of Tasker St., Philadelphia 48, Pa.

Laboratory related to refinery process development and to mfg. products derived from sugar, and sugar by-products. In charge: Dr. Alfred Lachmann, Dr. W. Marcy. This is a unit of The American Sugar Refining Co., 120 Wall St., New York 5, N. Y., whose executive representing the laboratory is Victor L. Johnson, vice president.

W. H. & L. D. BETZ,

Gillingham & Worth Sts., Philadelphia 24, Pa.

L. D. Betz, managing director.

Dr. H. L. Kahler, director of research.

C. A. Noll, chief chemist.

John J. McGuire, technical director.

B. F. Shema, chief microbiologist.

Consulting and research laboratory specializing primarily in industrial water conditioning. Branch laboratories: 223 W. Jackson Blvd., Chicago 6, Ill., and 384 St. Paul Street W., Montreal 1, Que.

THE BORDEN COMPANY, Chemical Division, Central Research Laboratory,

5000 Summerdale Ave., Philadelphia 24, Pa.

Dr. B. David Halpern, research director.

One of the important laboratories maintained by The Borden Company among the various divisions and affiliated companies. For an enumeration of some of these, please see our reference to the main office of the company, New York, N. Y.

CROWN CORK & SEAL COMPANY, INC., Can Division,

Erie Ave. at H St., Philadelphia 34, Pa.

W. E. Graham, division manager of research.

Research and development laboratory related to the canning industry generally, and to can manufacturing, also rendering assistance to customer food packers. See also our reference to Crown Cork & Seal Co., Inc., at Baltimore, Md.

DALARE ASSOCIATES, The Dairy Laboratories,

2300 Locust St., Philadelphia 3, Pa.

George Jaggard, director, manager of Philadelphia office.

Consulting and research laboratories, control of mfg. Includes complete spectro-chemical and infra-red analysis; also industrial toxicology and industrial hygiene. David W. Crisman, V.M.D., and Milton W. Ransom, chemists. Consultants at this location: H. C. Campbell, M.D., and C. H. Kimberly, Ph.D. Other offices of Dalare Associates at New York, N. Y., Washington, D. C., & Baltimore, Md.

EASTERN UTILIZATION RESEARCH BRANCH,

Chestnut Hill Station, Philadelphia 18, Pa.

This is mail address of Eastern Utilization Research Branch, Agricultural Research Service, U. S. Dept. of Agriculture. Out reference to the Branch appears under Wyndmoor, Pa., for the reason that the actual location is Wyndmoor, Springfield Township, Montgomery County, Pa.

FOOD FAIR STORES, INC.,

2223 East Allegheny Ave., Philadelphia 34, Pa.

Dr. B. A. Bendor, director of quality control & product development.

This company operates retail chain stores merchandising foods, household chemicals, garden supplies. Laboratories operated by the department of quality control & product development include chemistry, physics, etc.

HARTMAN-LEDDON CO., INC.,

5819-21 Market St., Philadelphia 39, Pa.

Milton I. Hartman, president.

Research and control laboratory related to mfg. laboratory reagent specialties.

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HARVEY LABORATORIES, INC.,
5109 Germantown Ave., Philadelphia 44, Pa.
Allen F. Murray, D.Sc., director.

Manufacturing chemists; research and control laboratory on pharmaceutical specialties, hormone preparations, sterile ampules.

THE CHARLES E. HIRES COMPANY,
206 South 24th St., Philadelphia 3, Pa.
David L. Sloan, director, control division.
Research and control laboratory related to mfg. beverages, food products, Hires root beer. John Leitz, director of the laboratory.

INDUSTRIAL TOXICOLOGY LABORATORIES, INC.,
3340 Chestnut St., Philadelphia 4, Pa.
Morris V. Shelanski, M.D., executive director.
Industrial toxicology; investigations of public health, industrial health and bacteriological problems. Clinical and laboratory investigations of pharmaceutical and industrial products.

IVES-CAMERON COMPANY,
Radnor, Pa. Mailing address, P. O. Box 8299
Philadelphia 1, Pa.
Edwin F. Roberts, president.
Michael R. Maiese, supervisor of research.
Pharmaceutical manufacturers; research & development laboratories are at this location. This is a Division of American Home Products Corporation, 22 East 40th St., New York 16, N. Y.

KESSLER CHEMICAL CO., INC.,
State Road & Cottman Ave., Philadelphia 35, Pa.
Dr. L. W. Wasun, vice pres. & research
director.

Manufacturers of fatty and dibasic acid esters; product development, research and quality control laboratories include organic, inorganic and physical chemistry. Robert Kerr, chief chemist; John P. Hardiman, manager, technical laboratories.

LaWALL & HARRISON RESEARCH LABORATORIES,
1921 Walnut St., Philadelphia 3, Pa.
Jos. W. E. Harrison, Sc.D., director.

An independent laboratory engaged in studies for the pharmaceutical, food and cosmetic industries. Safety and toxicological studies on food additives, new drugs and economic poisons. Biologic and vitamin assays; bacteriological, chemical and pharmaceutical research and testing; clinical evaluation in collaboration with medical and veterinary consultants; development of new products. Assistant directors: E. W. Packman, Sc.D.; S. E. Levin, Ph.D.; E. W. Rees, B.Sc.

McNEIL LABORATORIES, INC.,
2900 N. Seventh St., Philadelphia 32, Pa.
Henry S. McNeil, president.
Dr. Charles F. Kade, Jr., director, division
of medical sciences.

H. H. Shull, director, control division.
Research and control laboratories related to mfg. ethical pharmaceutical specialties. C. K. Cain, manager, organic chemistry department; David F. Marsh, manager, pharmacology department; William L. Madison, manager, pharmaceutical development department.

MERCK SHARP & DOHME DIVISION, Merck & Co., Inc.,
640 N. Broad St., Philadelphia 1, Pa.
John G. Bill, president.

This is one of four operating divisions of Merck & Co., Inc.; executive offices and laboratories at this location. However, for the research facilities as presently organized, including those at West Point, Pa., please see our reference to Merck Sharp & Dohme Research Laboratories Division of Merck & Co., Inc., Rahway, N. J.

NATIONAL DRUG COMPANY,
4663-85 Stenton Ave., Philadelphia 44, Pa.
Dr. Gustav J. Martin, vice president, research
& development.

Manufacturers of ethical pharmaceuticals, biologicals and allied products. This is general offices of the company; pharmaceutical manufacturing laboratories also are at this address. Research & development laboratories are at Haines & McCallum Sts., Philadelphia 44, Pa. We

make separate reference to the Biological Division, located at Swiftwater, Pa.; R. P. Knerr, director.

OZONE PROCESSES DIVISION, The Welsbach Corporation,
2409 W. Westmoreland St., Philadelphia 29, Pa.
Our reference to the division's laboratories is under the title, The Welsbach Corporation, Philadelphia, Pa., to which please refer.

PENNSYLVANIA SALT MANUFACTURING COMPANY,
3 Penn Center Plaza, Philadelphia 2, Pa.
W. A. LaLande, Jr., vice president.

This is general offices of the company. The firm's Technical Division operates the Whitemarsh Research Laboratories, Chestnut Hill P. O., Philadelphia, to which please refer. At the latter location are also the Sales Service Department, William M. Lee, manager; and the Patent Department, Arvid E. Lyden, manager.

PENNSYLVANIA SALT MANUFACTURING COMPANY, Whitemarsh
Research Laboratories,
P. O. Box 4388, Chestnut Hill P. O., Philadelphia 18, Pa.
George McCoy, manager, Research & Development Department.
William M. Lee, manager, sales services dept.
Arvid E. Lyden, manager, patent department.

The laboratories are operated by the company's Technical Division, and the three departments named above are included. The activities are related to mfg. basic inorganic and organic industrial chemicals and specialties. Includes research and development, pilot plants and sales services synthesis, physico-chemical, electrochemical and bacteriological; also chemical intermediates, refrigerants and aerosol propellants, agricultural chemicals, sanitation chemicals, textile chemicals, detergents, laundry and drycleaning products, rubber chemicals, solvents, metal cleaning and phosphatizing chemicals, J. F. Gall, director, inorganic research; T. E. Deger, director, organic research; F. R. Lowdermilk, director, process development; P. A. Munter, director, analytical. General offices of Pennsylvania Salt Mfg. Co. are 3 Penn Center Plaza, Philadelphia 2, Pa.; the firm's executive representing the laboratories is W. A. LaLande, Jr., vice president.

PHILADELPHIA AMPOULE LABORATORIES,
400 Green St., Philadelphia 23, Pa.
Benjamin Goodman, registered pharmacist.

Product development, research and control laboratories at this location related to mfg. pharmaceuticals and local dental anesthetics (injectables).

QUALITY CONTROL LABORATORY,
Pine Road, Fox Chase, Philadelphia 11, Pa.
Dr. Earl W. Cook and Albert F. Zimmermann,
directors.

Consulting and testing laboratory, control of mfg.; includes dairy products, foods, water.

ROHM & HAAS COMPANY,
Washington Square, Philadelphia 5, Pa.
Dr. Ralph A. Connor, vice pres. in charge of research.

Research laboratory at Bristol, Pa., for testing materials for use as insecticides, fungicides, herbicides, bactericides, etc.; F. B. Maughan, head. Research Laboratory related to mfg. enzymes at 5000 Richmond St., Philadelphia 37, Pa.; C. V. Smythe, head.

WILLIAM H. RORER, INC.,
Stenton Ave. & Abbottsford Road, Philadelphia 44, Pa.
Herbert C. Rorer, president, technical director.

Laboratory for control of manufactured products and for research in pharmaceutical field.

SAMUEL P. SADTLER & SON, INC.,
1517 Vine St., Philadelphia 2, Pa.
Philip Sadler, president.

Harry T. Johnston, chief chemist.
S. P. Nielson, biochemist and biologist.
Consulting, analytical, research, industrial chemists and chemical engineers. The work includes many products related to biochemistry, such as: foods, organic chemicals, pharmaceuticals, nutrition products, brewers' and distillers' problems, leather, dairy products, beverages, etc.

ITH, KLINE & FRENCH LABORATORIES, Research & Development Division,
1530 Spring Garden St., Philadelphia 1, Pa.

W. Furness Thompson, vice pres. in charge of research.

Engaged in research and development of new and improved therapeutic agents. The staff includes executive personnel as follows: W. L. Long, director, Research & Development Division; J. K. Clark, director of research; M. Ferdinand, research administrator; C. W. Scull, director of development; H. A. Clymer, development administrator; R. Bard, associate director of general development; R. J. Vlauto, associate director of exploratory development; C. Grant, Jr., director of R. & D. Agreements; R. T. Inner, director of Research & Development Laboratories; H. Blythe, director of Pharmaceutical Laboratories; G. Ulyot, director Chemical Laboratories; E. J. Fellows, director of Biological Laboratories; T. B. Wallace, manager of Medical Department; M. R. Nance, director of Clinical Investigation; H. C. Longnecker, manager of Science Information Department; M. W. Pratt, manager of Administrative Department. The company's Milk Products Division is the wholly-owned Avoset Company, 661 Geary St., San Francisco 2, Calif. The latter has its research department at Gustine, Calif., to which please refer, and of which A. E. Poarch is research director.

J. STOKES MACHINE CO.,

5500 Tabor Road, Philadelphia 20, Pa.

Dr. Earl W. Flossdorf, research director.

William H. Hamilton, general manager of the laboratory.

Semi-plant scale laboratory. Much of the original research on drying blood plasma and penicillin was conducted in this laboratory; is available to develop ideas, prove methods, determine time and cost factors, and resolve equipment problems. Experienced with various antibiotics, vitamin products, glandular products and hormones, bacteriological and other medical products, food and nutrition products.

THE WEISBACH CORPORATION, Ozone Processes Division, 2409 West Westmoreland St., Philadelphia 29, Pa.

Dr. T. C. Manley, director of research.

Dr. Allison Maggiolo, director of development.

P. B. Williams, director of engineering.

Product development and research laboratories at this location related to mfg. ozone generating equipment. Include chemistry and electronics. W. E. Cromwell, asst. director of research. S. J. Niegowski, asst. director of development. Main offices of the corporation and the division are 1500 Walnut St., Philadelphia 2, Pa., and at the latter address, V. A. Hann is exec. vice president.

YANEL LABORATORIES,

1355 N. Front St., Philadelphia 22, Pa.

Dr. Eugene L. Cohen, director.

Dr. Lester S. Cohen, director, organic division.

Analysts, also consulting services in pharmaceutical, industrial, textile, biological and chemical fields.

Includes product development, research and quality control; also mfg. special synthetic organic chemicals.

WYETH INSTITUTE FOR MEDICAL RESEARCH,

P. O. Box 8299, Philadelphia 1, Pa.

Joseph Seifter, M.D., director.

This is a part of the research facilities of Wyeth Laboratories, Radnor, Pa.; together they embrace a complete pharmaceutical, biological and nutritional service, with other laboratories in additional cities. Wyeth Laboratories is a Division of American Home Products Corporation, 22 East 40th St., New York 16, N. Y.; please see our reference at that location, also Wyeth Laboratories at Radnor, Pa.

WYETH LABORATORIES, Division of American Home Products Corporation,

Philadelphia 1, Pa.

This is correct mail address for executive and administrative offices of Wyeth Laboratories Division, title as above, also for the Division's principal research facilities. However, the actual location of the foregoing is in extensive new quarters at Radnor, Pa., concerning which please see our reference, Wyeth Laboratories Division, Radnor, Pa.

PITTSBURGH

BEN VENUE LABORATORIES, INC.,

1112 Park Bldg., Pittsburgh 22, Pa.

R. Templeton Smith, president.

This is the firm's executive offices. Laboratory at Bedford, Ohio, to which please refer.

CALGON, INC.,

323 Fourth Ave., Pittsburgh 30, Pa.

Research laboratories related to all phases of water treatment and waste disposal and to the uses of metaphosphates in water conditioning, food manufacture and the chemical process industries. This company is a wholly owned subsidiary of the Hagan Corporation, same address, whose executive representing the laboratory is Ralph N. Thompson, research manager.

FISHER SCIENTIFIC COMPANY,

717 Forbes St., Pittsburgh 19, Pa.

This company's Chemical Manufacturing Division, Fairlawn, N. J., to which please refer.

GULF RESEARCH & DEVELOPMENT COMPANY,

P. O. Drawer 2038, Pittsburgh 30, Pa.

Blaine B. Wescott, executive vice pres. & director.

H. W. Daugherty, business management.

This is a wholly-owned subsidiary of the Gulf Oil Corporation, and its facilities are located at Harmarville, Pa., approximately 14 miles north of Pittsburgh. It is an integrated petroleum research organization covering all phases of the petroleum industry. Speaking of the facilities as a whole, at Harmarville, the laboratories are built on a 57-acre tract and consist of ten major buildings and some 30 odd smaller buildings. The total number of employees is more than 1,200. As part of the Product Division, one of ten divisions, the Entomology Section, under the direction of A. C. Miller, has entomological facilities for research, sales service, manufacturing and quality control related to insecticides and certain other specialty products.

HAGAN CORPORATION,

323 Fourth Ave., Pittsburgh 30, Pa.

Ralph N. Thompson, research manager.

Please see our reference to Calgon, Inc., same address.

H. J. HEINZ COMPANY, Research & Quality Control Division,

Pittsburgh 30, Pa.

C. L. Rumberger, vice pres., research & quality control division.

Laboratories of the Division include food technology, bacteriological, nutritional and engineering research, quality control of mfg., chemical and microbiological analyses. The first three of the fields mentioned are included in food research department, with a fourth, crop research, which has activities centered at Bowling Green, Ohio. Please see our reference to H. J. Heinz Co. at the latter location.

MELLON INSTITUTE OF INDUSTRIAL RESEARCH University of Pittsburgh,

4400 Fifth Ave., Pittsburgh 13, Pa.

General Matthew B. Ridgway, chairman, Board of Trustees.

Mellon Institute was founded in 1913 by Andrew W. and Richard B. Mellon. It operates on the system of practical co-operation between science and industry founded by Robert Kennedy Duncan. It is allied co-operatively with the University of Pittsburgh, and it is located on the main campus of the university. It is a non-profit endowed corporation. A Board of Trustees elects the officers, and the chairman of the Board of Trustees is the chief executive officer of the corporation. The following are members of the executive staff of the Institute: Directors of research: Dr. E. Ward Tillotson, Dr. William A. Hamor, Dr. George D. Beal, Dr. George H. Young, Dr. John R. Bowman, Dr. Raymond H. Hartigan, and Dr. Harry L. Anthony. Directors of engineering: Harry S. Coleman and Dr. G. Arthur Webb. Comptroller, Howard C. Davies.

The work of the Institute has the character of long-range, post-doctoral investigations in the pure and applied natural sciences, especially in the fields of chemistry and chemical engineering, conducted by the institution's definite procedure. The latter is organized in fellowships, 88 in number, many of them of some magnitude, and on the continuing basis. Comprehensive studies are in progress in hygiene, bacteriology, biochemistry and nutrition. One of these fellowships is that of the Industrial Hygiene Foundation of America, Inc.

The staff numbers approximately 681, of whom 80 per cent are in research. The departments include, research in chemical physics, research in physical chemistry, research in organic chemistry; and there are also a depart-

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ment of physical measurements; a department of instrumentation, and an analytical department. The Institute occupies an imposing building at the address stated.

PITTSBURGH BREWING COMPANY,
3340 Liberty Ave., Pittsburgh 1, Pa.
Hugo Larsen, master brewer.

Product development and quality control laboratories at this location related to production of beer; include chemistry and bacteriology. Robert D. Guszynski, brewing chemist.

PITTSBURGH COKE & CHEMICAL CO.,
Neville Island, Pittsburgh 25, Pa.
Dr. Ernest O. Ohsol, director of research &
development.
Dr. Robert C. Scott, asst. to the manager,
Agricultural Chemicals Division.

Product development and research laboratory at this location, related to mfg. herbicides, insecticides, fungicides. Includes chemistry, chemical engineering, biochemistry, agronomy, entomology, plant pathology. Gordon M. Williams, supervisor, agricultural chemicals research. Dr. J. B. Skaptason, co-ordinator, biological research.

WILLIAM J. SCHILLER,
611 Renshaw Bldg., Pittsburgh 22, Pa.
Consultant in food mfg., pharmaceuticals. Includes food analysis, research, control.

RADNOR

AMERICAN HOME PRODUCTS CORPORATION,
Radnor, Pa.

Laboratories at this location include those of two Divisions of the corporation, namely Ives-Cameron Co. and Wyeth Laboratories, Inc., to both of which please refer.

IVES-CAMERON COMPANY,
Radnor, Pa.

Laboratories at this location; our reference appears under Philadelphia, Pa., which is mailing address.

WYETH LABORATORIES, Division of American Home Products Corporation,
Radnor, Pa. (Mail address, P. O. Box 8299,
Philadelphia 1, Pa.)

Charles J. Kern, assistant to the president,
in charge of research & development.

The Division occupied, at this location, in late 1955, a group of new buildings affording accommodations for the general offices, also bringing together in one place production and research facilities which had been operated at three addresses in the city of Philadelphia. The new structures are the latest in modern design and planning, and embody striking architectural treatment. The departments thus moved to Radnor include complete pharmaceutical, biological and nutritional laboratory service formerly housed at 1401 Walnut St., Philadelphia; and the Wyeth Institute for Medical Research, previously at 900 N. Broad St. Please see our reference separately under the latter title. Laboratories of the Division, to which

also we refer separately, include the following: Penicillin Laboratories, West Chester, Pa.; biological laboratories, Marietta, Pa.; pharmaceutical laboratories, Evanston, Ill.; nutritional laboratories, Mason, Mich.; also included but with no separate reference, pharmaceutical manufacturing laboratories, 1201 Washington Ave., Philadelphia, Pa. Wyeth Laboratories is a Division of American Home Products Corporation, to which latter please refer at 22 East 40th St., New York 16, N. Y.

SCRANTON

INTERNATIONAL SALT COMPANY, INC.,
P. O. Box 911, Scranton 2, Pa.

Product development and research laboratory at 254 West 31st St., New York 1, N. Y., to which please refer Kurt Ladenburg, research director.

SINKING SPRINGS

HOFMANN INDUSTRIES, INC.,
Sinking Springs, Pa.

A Division of the company is National Chlorophyll & Chemical Co., Lamar, Colo.; please see that reference.

STATE COLLEGE

APPLIED SCIENCE LABORATORIES, INC.,
140 N. Barnard St., State College, Pa.

Arthur Rose, president & technical director.

Consultation and contract research and development, including chemistry of fungicides, fungicide testing and analysis and related subjects. On the staff, all at Pennsylvania State University: A. Witt Hutchison, professor of physical chemistry; Mary P. Shelton, professor of textile chemistry; John R. Hayes, Harold L. Lovell, professors of analytical chemistry.

SWIFTWATER

THE NATIONAL DRUG COMPANY, Biological Laboratories,
Swiftwater, Pa.

R. P. Knerr, director of biological division.

Related to mfg. biological products, vaccines, anti-toxins, serums, etc. Main office of The National Drug Co., Philadelphia, Pa., to which please refer.

WAYNESBORO

WAYNE LABORATORIES,
17 E. Main St., Waynesboro, Pa.
Dr. W. R. McElroy, director.

Chemical and engineering consultation. Facilities include a bacteriological laboratory for testing water supplies and milk, research, and for evaluation of germicides, fungicides, etc. J. S. Martin, chief chemist.

WEST CHESTER

WYETH LABORATORIES, Penicillin Laboratories,
West Chester, Pa.

G. Raymond Rettew, managing director.

Dr. William Elias, technical director.

Include at this location, development and control of mfg. Executive and administrative offices of Wyeth Laboratories at Radnor, Pa., to which please refer.

WEST POINT

MERCK INSTITUTE FOR THERAPEUTIC RESEARCH,
West Point, Pa.

Dr. Karl H. Beyer, director, West Point unit.

Research activities at this location formerly carried on under Sharp & Dohme Division, Merck & Co., Inc., are



- At left

The illustration shows the main building of new headquarters of Wyeth Laboratories at Radnor, Pa. The wing in the foreground has executive, administrative and sales offices of the company; the research laboratories are beyond. At the ground level between the two sections is a connecting corridor used as a reception area. Each section of the building surrounds a patio, an indoor court that opens to the sky.

in part included within the Merck Institute for Therapeutic Research; please see our reference to the latter, New York, N. J., which explains also in other respects, the present set-up at West Point.

WYNDMOOR

STERN UTILIZATION RESEARCH BRANCH,

Wyndmoor, Springfield Township, Montgomery County, Pa. (Mail address, Chestnut Hill Station, Philadelphia 18, Pa.)

Dr. Percy A. Wells, chief.

Dr. Rex E. Lothrop, assistant chief.

Dr. Sam R. Hoover, assistant chief.

Dr. William P. Ratchford, assistant to the chief.

This is one of four branches of similar title administered by the Agricultural Research Service, U. S. Department of Agriculture; G. E. Hilbert, director, utilization research. This Branch is concerned for the most part with agricultural products and by-products of the Eastern states, including eastern fruits and vegetables, tobacco,ilk products, animal fats, hides, tanning materials and leather, honey, maple products, wool by-products, corticosteroids, precursors, biologically-active chemical compounds and plants. The activities of the Branch were expanded in early 1955, when the research sections of the former Washington Utilization Research Branch were merged with the Eastern Branch. The added program includes research on meat and dairy products, and the chemistry and immunology of allergenic components in substances of agricultural origin. Enumeration of the eleven research sections in the organization will indicate to some extent the scope of the investigations: Analytical, physical-chemical and physics, Brooks A. Brice, head; animal fats, Waldo C. Milt, head; animal proteins, Thomas L. McMeekin, head; biochemical, John J. Willaman, head; biologically active chemical compounds, Charles F. Krewson, acting head; engineering and development, Roderick K. Eskew, head; fruit and vegetable, Charles F. Woodward, head; hides, tanning materials and leather, Joseph Naghski, head; allergens, Henry Stevens, head; dairy products, Earle C. Whittier, head; meat, William L. Sulzbacher, head, Beltsville, Md. See also our general reference to United States government departments, Washington, D. C.

PUERTO RICO

MAYAGUEZ

FEDERAL EXPERIMENT STATION,

Mayaguez, Puerto Rico.

Harry E. Warmke, Ph.D., officer in charge.

Thomas Theis, Ph.D., asst. officer in charge.

This station is one of three under administration of the Territorial Experiment Stations Division, Agricultural Research Service, U. S. Department of Agriculture, Washington 25, D. C., the other two being in Alaska and the Virgin Islands. David V. Lumsden, Ph.D., is director of the Division. The station has a two-fold aim, to undertake fundamental research in agricultural crops of value to the continental United States, and also to improve the agricultural economy of Puerto Rico. Problems of immediate concern involve research on insecticidal crops, drug crops, bamboo and fiber crops, food crops, plant introduction and propagation, spice and special crops, weed control, and forage crops. The staff includes: M. P. Morris, chemist; T. J. Muzik, plant physiologist; Thomas Theis and Lucas Calpouzos, plant pathologists; Harold F. Winters and William C. Kennard, horticulturists; John L. Spencer, plant geneticist. The program of this station is co-operative with that of the Experiment Station of the University of Puerto Rico, at Rio Piedras. The latter is a federal land-grant station and is administered by the State Experiment Stations Division, as are the agricultural experiment stations in the United States. See also our general reference to United States government departments, Washington, D. C.

SOUTH CAROLINA

GREENVILLE

MURRAY LABORATORY

P. O. Box 1087, Greenville, S. C.

J. J. Murray, Jr., director & owner.

Analytical and consulting; includes food products, cultures, textiles, water supply and miscellaneous chemical and bacteriological.

SOUTH DAKOTA

SIOUX FALLS

JOHN MORRELL & CO.,

Sioux Falls, S. Dak.

Control laboratory in plant at this location; branch of this company, Ottumwa, Iowa, to which please refer.

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SIOUX FALLS SERUM CO.,

2000 Wabash Ave., Sioux Falls, S. Dak.

Dr. R. M. Scott, manager.

Laboratory related to mfg. anti-hog cholera serum, hog cholera virus, etc. This is a unit of Allied Laboratories, Inc., Kansas City, Mo., to which please refer.

TENNESSEE

BRISTOL

THE S. E. MASSENGILL COMPANY,

513-529 Fifth St., Bristol, Tenn.

P. E. Carman, executive director of research. Product development and research laboratories at this location related to mfg. general pharmaceuticals. Include organic research and pharmacological and bacteriological screening of medicinals.

CHATTANOOGA

CHATTANOOGA BAKERY, INC.,

1126 King St., Chattanooga 1, Tenn.

D. A. Parks, vice president.

Research and control laboratory related to food products. Ralph M. Bohn, chemist.

THE CHATTANOOGA MEDICINE CO.,

1715 West 38th St., Chattanooga 9, Tenn.

J. M. Holbert, Ph.D., director of research.

I. W. Grote, Ph.D., scientific advisor.

The laboratories include a control laboratory, an organic research laboratory, a microbiological laboratory, a bioassay laboratory and a pharmacological laboratory; also a research library. Each is well equipped and staffed with a qualified personnel including three Ph.D's and two M.A's. The work includes control and development of chemical and pharmaceutical products, including vitamins, acute toxicity tests, bioassays of laxatives, antispasmodics, etc.

SOUTHERN CHEMICAL COTTON CO., INC.,

West 45th St. & Central Ave., Chattanooga 10, Tenn.

Mark Plunguiian, director of research.

Product development and research laboratory related to mfg. purified cotton linters for cellulose derivatives and for paper.

KINGSPORT

TENNESSEE EASTMAN COMPANY, Subsidiary of Eastman Kodak Company.

P. O. Box 511, Kingsport, Tenn.

James G. McNally, vice president & director of research.

F. R. Conklin, vice president & plant manager.

Manufacturer of synthetic yarns, plastics, dyestuffs, photographic chemicals, and other related chemical products. The research program concerns investigation within the scope of these manufacturing interests. The research staff is made up of organic and physical chemists; chemical, electrical and mechanical engineers; and physicists. In addition, technical personnel to a considerable number are employed in experimental groups in the operating plant, whose work involves process improvement and development work.

KNOXVILLE

GALBRAITH LABORATORIES,

P. O. Box 32, Knoxville 17, Tenn.

Harry W. Galbraith, director.

Consulting laboratory specializing in the quantitative analysis of organic chemicals.

MEMPHIS

BUCKMAN LABORATORIES, INC.,

1256 N. McLean Blvd., Memphis 8, Tenn.

Dr. S. J. Buckman, president.

J. H. DeGroff, production manager.

J. D. Pera, chief chemist.

Manufacturing chemists. Laboratories in the general field of industrial micro-organism control, including mfg. organic-mercurials and other organic chemical toxicants for control of slime in pulp and paper mills; control of micro-organisms in tanneries, also in latex and oil base paints.

THE HUMKO COMPANY,

1702 N. Thomas St., Memphis, Tenn.

J. H. Kirby, vice president.

S. Jack Rini, director of research.

Product development, research and quality control laboratory related to mfg. vegetable and animal fats and oils and fatty acids. Includes chemistry and chemical

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engineering. F. M. Tindall, chief chemist. W. F. Schroeder, director of bakery research. Laboratories also in plant of the Trendex Division, The Humko Company, 3018 Bell Ave., Memphis, Tenn.

OAK RIDGE

OAK RIDGE NATIONAL LABORATORY,
Oak Ridge, Tenn.

Reference to this important establishment of the Atomic Energy Commission is included in our general reference to U. S. government departments, Washington, D. C., to which please refer.

TEXAS

AMARILLO

O. M. FRANKLIN SERUM CO.,
109 N. Monroe St., Amarillo, Texas.
Clyde O. Morgan, D.V.M., superintendent.
H. T. Bray, business manager.

Laboratory related to the production of animal biologics, pharmaceuticals. General offices of the company, Livestock Exchange Bldg., Denver 16, Colo.

AUSTIN

JEFFERSON CHEMICAL COMPANY, INC., Austin Laboratories,
7114 Georgetown Road, Austin, Texas.
Dr. W. J. Peppel, director.

Product development and research laboratories related to mfg. petrochemicals. Main office of the company, 260 Madison Ave., New York 16, N. Y., at which address is the office of Dr. Max Neuhaus, vice president, development.

COLLEGE STATION

DR. BONEY LABORATORIES,
P. O. Drawer 1500, College Station, Texas.
Dr. W. A. Boney, Jr., D.V.M., president and laboratory director.

Product development, research and control laboratory related to mfg. veterinary biologics and pharmaceuticals, mostly for poultry; includes occasional consultation in poultry pathology.

DALLAS

ALLIED ANALYTICAL & RESEARCH LABORATORIES,
3833 Cedar Springs Ave., Dallas 4, Texas.
David E. Levin, Ph.D., president.
R. L. Vandaveer, vice pres., analytical section.
Paul Goff, inspection.

Consultation, includes general analytical and research; sanitation and quality control for food industries; research on drug and cosmetics formulations. Specialists in application of food, drug & cosmetics act.

BURRUS MILLS, INC.,
P. O. Box 448, Dallas 1, Texas.
G. E. Findley, director of research.

Control laboratories on flour milling and feeds at this location, also Fort Worth and Galveston, Texas, Kansas City, Mo., and Havana, Cuba.

CAMPBELL TAGGART RESEARCH CORPORATION,
3401 Haggar Drive, Dallas 1, Texas.
Wendell Reeder, Ph.D., president.

Research and control laboratory services in the baking industry. This is a unit of Campbell Taggart Associated Bakeries, 6211 Lemmon Ave., Dallas, Texas, J. E. Madsen, president.

DALLAS LABORATORIES,
2121 South Central Expressway, Dallas 1, Texas.
Sidney Lee, president.

Consultation, analysis, product development; drugs, special synthetics, chemistry, physics, bacteriology, engineering.

DR. PEPPER COMPANY,
P. O. Box 5086, Dallas 22, Texas.
H. Buttler, chemical director.

Manufacturers of soft drink syrup, "Dr. Pepper". Product development, research and quality control laboratory related to this production. Lee Morton, asst. chemical director.

THE POPE TESTING LABORATORIES,
2618½ Main St., Dallas, Texas.
R. C. Pope, owner and director.
Consulting analytical chemists and testing engineers. Includes foods, feeds, agricultural products.

EL PASO

WILSON CHEMICAL & TESTING LABORATORY,
P. O. Box 1101, El Paso, Texas.
Harold W. Wilson, director.

Commercial consulting and testing laboratory designed equipped and staffed to conduct studies in agricultural chemistry, food products, chemical fertilizers, insecticides and economic poisons; also soils, water and on a limited scale air pollution and odor control.

FORT WORTH

ANDERSON LABORATORIES,
P. O. Box 1924, Fort Worth 1, Texas.
B. B. Anderson, president.
D. W. Bailey, vice president.

Consulting laboratory, includes food and nutrition products, pharmaceuticals, control of mfg.

GLOBE LABORATORIES,

116 Commerce St., Fort Worth 2, Texas.
Dr. Frank R. Jones, president.
Dr. Henry D. Carpenter, director of laboratories.

Manufacturers of veterinary biologics, pharmaceutical disinfectants, insecticides; laboratory related to this production. Others on the staff: Dr. Thomas H. Hawkins, asst. laboratory director; A. F. Whipple, chief chemist; Max L. Cole, bacteriologist in charge of biological production; Carl D. Heather, bacteriologist.

INDUSTRIAL LABORATORIES,

206½ West 11th St., Fort Worth 2, Texas.
R. M. Bulbrook, director.

Analytical and consulting chemistry, principally bacteriology on foods, milk and water; experimental and development problems in production; inspection of material and tests.

UNIVERSAL MILLS,

P. O. Box 1380, Fort Worth 1, Texas.
George P. McCarthy, director of feed research.

Research and control laboratory on manufacturing milling by-products and feeds. Harry F. Vaupel, chief chemist.

HOUSTON

SHILSTONE TESTING LABORATORY,
2301 W. Dallas Ave., Houston 19, Texas.
Herbert M. Shilstone, Jr., partner & director.

Inspecting and consulting chemists and engineers. This is a branch of laboratory of the same name, New Orleans, La., to which please refer. Includes also a branch at 3620 Agnes St., Corpus Christi, Texas, and 1068 Neosho St., Baton Rouge, La.

MCALLEN

TEXAS SOIL LABORATORY,
P. O. Box 361, McAllen, Texas.
George R. Schulz, director and owner.

Consulting and research laboratory mainly concerned with more efficient crop production; diagnosis of soil problems.

RENNER

TEXAS RESEARCH FOUNDATION,
P. O. Box 43, Renner (Dallas county), Texas.
C. L. Lundell, director.

This is a non-profit research and educational institution established and supported wholly by contributions from business and industry. The facilities include an experimental and demonstration farm of 850 acres, and buildings totalling 50,000 sq. ft. of floor space. There are 11 chemical laboratories, a process laboratory, three soil science and five plant science, a large greenhouse, a shop, farm warehouses and other buildings.

The fields of research include, in the physical sciences, biochemistry, organic chemistry, radio-chemistry, analytical chemistry; in the agricultural sciences, plant exploration and introduction, soil sciences, plant sciences, animal husbandry. The staff consists of 50 people, including scientists and scientific technicians. Others on the staff, in addition to Dr. Lundell, as above, include: Hoblitzelle Agricultural Laboratory, T. C. Longnecker, head; chemical laboratory, John Dendy, head; controller, Ralph Andrews.

SAN ANTONIO

CROCKETT LABORATORIES CO.,
147 Ralph St., San Antonio 6, Texas.
R. E. Taylor, Jr., manager.

Dr. E. D. Cockrum, medical director.
Control laboratory on the production of veterinary biologics, pharmaceuticals.

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STER LABORATORY, LTD.,
Route 8, Box 127H, San Antonio 1, Texas.
David Lister Halpenny, chief chemist.

Consulting laboratory; includes research, analytical, control; food and nutrition products, pharmaceuticals, andular products, biologicals.

LONE STAR BREWING COMPANY,
P. O. Box 2060, San Antonio 6, Texas.

Charles V. Collier, chief chemist.

Manufacturers of "Lone Star" beer; product development, research and quality control laboratory related to its production. Includes chemistry, microbiology, entomology.

SOUTHWEST RESEARCH INSTITUTE,
8500 Culebra Road, San Antonio 6, Texas.

Harold Vagtborg, president.

Norman Penfold, Martin Goland and Edward Gesick, vice presidents.

This is a non-profit institute for applied research and development, with a staff of 550. Its departments include, among other subjects, chemistry, chemical engineering, and applied biology. Facilities in these fields include chemical laboratories, chemical engineering and pilot plant facilities, farm plots, and large and small animal facilities. Research in related fields has been conducted in industrial waste disposal, organic synthesis, industrial agriculture, microbiology, economic botany, biochemical engineering, biological chemistry, animal nutrition, toxicity, aquatic biology, animal repellents. An affiliated unit is the Southwest Foundation for Research & Education, same address, with a staff of approximately 50. This is a non-profit institute for fundamental research and education in biological research related to diseases, both human and animal, also in the field of agriculture.

TEMPLE

ANDY LABORATORIES, INC.,

P. O. Box 356, Temple, Texas.

Dr. David M. Bandy, president.

Product development, research, process and quality control laboratory related to mfg. veterinary biologicals.

UTAH

WEST JORDAN

TAH-IDAHO SUGAR COMPANY, General Laboratory,

West Jordan, Utah.

Robert R. West, chief chemist.

Robert S. Gaddie, general chemist.

Research and control laboratory related to mfg. beet sugar products. General offices of the company, Beneficial Life Insurance Bldg., Salt Lake City, Utah.

VIRGIN ISLANDS

ST. CROIX

VIRGIN ISLANDS AGRICULTURAL PROGRAM,

Kingshill, St. Croix, U. S. Virgin Islands,
Richard M. Bond, Ph.D., Officer in Charge.

A. L. Isbet, Ph.D., Asst. Officer in Charge.

Research and extension program in progress at this station studying present and potential agricultural practices; includes investigations on food and forage crops, soils and weed control. Extension activities carry the information to farm and rural families. This is one of three stations under administration of the Territorial Experiment Stations Division, Agricultural Research Service, U. S. Department of Agriculture, Washington 25, D. C. The other two are in Alaska and Puerto Rico. David V. Lumsden, Ph.D., is director of the Division. See also our general reference to U. S. government departments, Washington, D.C.

VIRGINIA

FALLS CHURCH

HAZELTON LABORATORIES,

P. O. Box 333, Falls Church, Va.

Dr. L. W. Hazelton, president.

Dr. T. W. Tusing, vice president.

R. G. Henninger, general manager.

Research and development in biological sciences, including toxicology, metabolism studies, microbiology, entomology, clinical tests and tissue culture. The facilities include an experimental farm for work with domestic animals, and crop residue studies; R. W. Fogelman, D.V.M., head. The services include new drug applications, petitions for tolerance for new pesticides, and consultation. Head of biochemistry department, Dr. R. F. Hanzal; head

of enzymology dept., Dr. C. D. Johnston; head of kennels dept., Dr. W. Kundzins, D.V.M.; head of cytology dept., Dr. Ivor Corman.

HOPEWELL

ALLIED CHEMICAL & DYE CORPORATION, Nitrogen Division,
Drawer 61, Hopewell, Va.

F. O. Agel, director of development.

Dr. E. D. Crittenden, director of research.

Nitrogen Division is stated to be the country's foremost producer of synthetic ammonia and other nitrogen products; however it also manufactures methanol, formaldehyde, ethylene oxide, ethylene glycol and ethanolamines. Its plants are located at Hopewell, also at South Point, Ohio; Omaha, Neb., and Orange, Texas. Research facilities are at Hopewell, where the division has two modern research laboratories, the latest erected in 1953, as well as pilot plant and intermediate scale laboratories. Administrative personnel at the Hopewell research facilities is noted above.

NORFOLK

NORFOLK TESTING LABORATORIES,

288 Bank St., Norfolk 10, Va.

John H. Parkins and Harvey L. Hunt, directors.

Consulting laboratory; services include research and control of mfg.

SMITH-DOUGLASS COMPANY, INC.,

P. O. Box 419, Norfolk 1, Va.

J. H. Zwemer, general manager, production & research.

D. C. Kieffer, director of research.

Manufacturers of fertilizers and chemicals for agriculture. Product development, research and quality control laboratories at this location related to that production. Control laboratories also at Streator, Ill., and Albert Lea, Minn.

RICHMOND

THE AMERICAN TOBACCO COMPANY, Research Laboratory,

400 Petersburg Turnpike, Richmond 24, Va.

H. R. Hamner, director of research.

Related to tobacco products, Lucky Strike cigarettes. Functions as a control unit in making pre-market surveys of tobacco crop; systematic analyses and physical tests during manufacture and of the finished product; testing all materials used in manufacture such as cigarette paper, sweetening agents, and packaging materials. Research investigations include studies on the composition of tobacco, changes during curing, fermentation and aging; relation of chemical composition of tobacco to quality and to the constituents of tobacco smoke; physiological effects of components of tobacco smoke. Main office of the company, 111 Fifth Ave., New York 3, N. Y. The firm's executive representing the laboratory, P. L. Fowler, vice president, at the New York address.

LARUS & BROTHER COMPANY, INC.,

22nd & Cary Sts., Richmond 17, Va.

D. C. Kennedy, Jr., general production manager.
Clinton W. Baber, manager, chemical research department.

Chemical research laboratory related to smoking tobacco and cigarettes; includes new tobacco products and constituents, mfg. processes and quality control; primarily chemical and physical but also mold inhibition, insect control and similar.

PHILIP MORRIS, INCORPORATED, Research & Development Dept.,

P. O. Box 1895, Richmond 15, Va.

R. N. DuPuis, vice president, research & development.

Andrew E. O'Keefe, acting manager, research & development.

Product development and research laboratory related to mfg. cigarettes and smoking tobacco, "Philip Morris", "Marlboro", "Parliament", others; includes chemistry and chemical engineering. Reavis C. Sproull, manager technical service; Carville V. Mace, manager development. General offices of the company, 100 Park Ave., New York 1, N. Y.

PHIPPS & BIRD, INC.,

Sixth & Byrd Sts., Richmond 19, Va.

Lloyd C. Bird, research director.

The company is a dealer in and distributor of scientific equipment and chemicals. A product development laboratory in biophysics is maintained in connection with

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mfg., sale and service of scientific instruments. Assistants to the research director are W. Byrd Harrison, Jr., and Hampton M. Rexrode.

VALENTINE COMPANY, INC.,
1600 Chamberlayne Parkway, Richmond 9, Va.
C. Braxton Valentine, president.
W. J. Martin, director of quality control.
Research and control laboratory related to mfg. pharmaceuticals, food products.

VIRGINIA-CAROLINA CHEMICAL CORPORATION, Research Department,
818 Perry St., Richmond, Va.

Edwin Cox, vice president.
Dr. William P. Boyer, director of research.

Product development and research laboratories related to mfg. chemicals used in food processing, agriculture and other industries. Includes chemistry, biology, agronomy. Development laboratories and quality control laboratories at five other locations.

VIRGINIA INSTITUTE FOR SCIENTIFIC RESEARCH,
326 North Boulevard, Richmond 20, Va.

F. C. Armistead, director.

The Institute is engaged in single crystal studies, surface chemistry and physics of solids, especially metals; protein characterization; semi-conductor physics. Others on the staff: Henry Leidheiser, Carl J. Likes, G. Wayne Clark, Robert A. Lefever, James F. Kirn. This is a not-for-profit organization; not connected with any university. Sponsors of research within the Institute are largely industrial, but to some extent government agencies. The Institute limits its research undertakings to the level of fundamental studies.

SALEM

GEORGE A. JEFFREYS & CO., INC.,
Kessler Mill Road, Salem, Va.

George A. Jeffreys, president & director.

Biochemical processes. Product development, research & quality control laboratory related to production of enzymes, ferments, mold and bacterial cultures. Includes bacteriology, biology. Also on the staff, Donald B. Jeffreys, M.S.

WASHINGTON

CAMAS

CROWN ZELLERBACH CORPORATION, Central Research Department,

Camas, Wash.

Dr. W. W. Moyer, director of research.

Research laboratory and development laboratory related to mfg. paper products, also by-products from the pulp and paper industry. Includes chemistry, chemical engineering, physics and biology. The research laboratory also houses the Chemical Products Division, Dr. W. M. Hearon, general manager. Main offices of the corporation, 343 Sansome St., San Francisco 19, Calif., at



CHEHALIS

I. P. CALLISON & SONS,
National Ave., Chehalis, Wash.

Gail L. Shaw, plant manager & director of research & development.
Paul Tornow, chief chemist.

Lee Hagen, chemical engineer.

Research and control laboratory primarily related to essential oils, botanicals and drug mfg. Office also at 801 Lloyd Bldg., Seattle 1, Wash.

MOUNT VERNON

PICTSWEET FOODS, INC.,

First & Snoqualmie Sts., Mount Vernon, Wash.
T. W. Utterback, manager research & product control division.

Research and control laboratory on mfg. frozen and canned foods. E. T. Dalton, asst. manager research & product control division.

SEATTLE

I. P. CALLISON & SONS,

801 Lloyd Bldg., Seattle 1, Wash.

This company's plant and laboratories at Chehalis, Wash. Please see that reference.

CENTENNIAL FLOURING MILLS CO.,

340 Central Bldg., Seattle 4, Wash.

Please see our reference to this company's mills at Spokane, Wash.

FISHER FLOURING MILLS COMPANY,

3235 16th Ave. S.W., Seattle 4, Wash.

J. L. Locke, president

Wm. L. Haley, vice president & director of production and products control.

Research and control laboratory related to flour and feed milling and products; A. J. King, chief chemist.

GUTBERLET LABORATORIES,

205 Alaskan Way South, Seattle 4, Wash.

E. L. Gutberlet, director and owner.

Consulting chemists; services include research and control of manufacturing.

LAUCKS TESTING LABORATORIES, INC.,

1008 Western Ave., Seattle, Wash.

Francis P. Owens, president.

Analytical and consulting chemists. Gerald O. Freeman, vice president.

LIBBY, MCNEILL & LIBBY, Salmon Division,

88 Hamlin St., Seattle, Wash.

L. P. Callahan, manager, quality control & research.

Laboratory as indicated related to mfg. food products. Main office of the company, Chicago, Ill., to which please refer.

- At left

Laboratories of the Central Research Department, Crown Zellerbach Corporation, occupy two buildings at Camas, Wash. Our illustration shows the principal structure. The corporation's production is pulp and paper, and the emphasis in the research department is on by-product utilization. Dedication of the facilities was in mid-winter, 1955-56. Main offices of the corporation are in San Francisco.

WEST VIRGINIA

NITRO

MONSANTO CHEMICAL CO., Organic Chemicals Division,
Nitro, W. Va.

Research laboratories at this location specialize in synthesis and process development for agricultural pesticides; also synthesis, process development and application of rubber chemicals. G. W. Steahly is assistant director of research. Please see also our references to Monsanto Chemical Co., St. Louis, Mo.

SOUTH CHARLESTON

CARBIDE & CARBON CHEMICALS CO., Research Center,
P. O. Box 8004, South Charleston 3, W. Va.
Dr. F. Johnston, superintendent of research.
Dr. H. C. Chitwood, assistant director,
biological chemicals.

Research laboratories related to synthetic organics, polymers, agricultural chemicals; includes organic chemistry, biochemistry, agricultural chemistry. This is a division of Union Carbide & Carbon Corporation, 30 East 42nd St., New York 17, N. Y., whose executive representing the laboratory is D. B. Benedict, vice president.

WHEELING

THE BLOCH BROS. TOBACCO CO.,
4000 Water St., Wheeling, W. Va.
J. E. Matthews, Jr., Ph.D., Director of Research.

Product development, research and quality control laboratory related to mfg. tobacco products, all types. Includes biological chemistry, organic chemistry, chemical engineering.

WISCONSIN

BROOKFIELD

VITAMIN PRODUCTS COMPANY,
Brookfield, Wis.

Research and control laboratory at this address; main office Milwaukee, Wis., to which please refer.

BURLINGTON

MURPHY PRODUCTS COMPANY,
P. O. Drawer 310, Burlington, Wis.
E. H. Spitzer, research & technical director.
Product development, research and quality control laboratory related to mfg. protein, mineral, vitamin, antibiotic feeds for livestock and poultry.

GRAFTON

FROMM LABORATORIES, INC.,
Grafton, Wis.
Edward Fromm, president & general manager.
Dr. George L. Ott, director of research.
R. J. Schreiner, business manager.

Producers of veterinary biologics, specializing in the small animal field; also extending diagnostic services to fur farmers and veterinarians. A research and product development department is maintained. Related companies are located at Hamburg and Thiensville, Wis., respectively. At both these locations operations include the raising of mink; and at Thiensville, Federal Foods, Inc., is engaged in the manufacture of dog food and mink food.

GREEN BAY

THE LARSEN COMPANY,
314 N. Broadway, Green Bay, Wis.
R. H. Winters, treas. & production manager.
G. W. Krnnh, food technologist.
Control laboratory at this location related to mfg. canned food products.

MADISON

AMERICAN SCIENTIFIC LABORATORIES, INC.,
P. O. Box 232, Madison 1, Wis.
Philip G. White, Ph.D., director of research.
Manufacturers of veterinary biologics and medicinals.
Laboratory related to this production.

BJORKSTEN RESEARCH LABORATORIES,
P. O. Box 265, Madison 1, Wis.
Dr. Johan Bjorksten, president.
L. L. Yaeger, vice president.
F. B. Korsgard, treasurer.

Research assignments for industrial clients. The organization has branches at Chicago, Ill., and at Washington, D. C.

THE BRANCHFLOWER COMPANY,

15th Ave. N.W. at Shilshole, Seattle 7, Wash.
R. W. Harrison, production manager.
Dick Verhagen, director of research & development.

Robert Parent, chief chemist.

Laboratory related to development and manufacture of fat, oil and chemical products; includes food, vitamin, tritration and technical products.

NATIONAL CANNERS ASSOCIATION, Northwest Branch Laboratory,

826 Skinner Bldg., Seattle 1, Wash.
E. D. Clark, director.

This is one of two branch laboratories of the Association extending professional and practical services to members of the Association. Likewise, at the national headquarters, Washington, D. C., to which please refer, there is a laboratory of similar functions. The Seattle laboratory has affiliation with the Association of Pacific Fisheries and two related co-operating associations, by which members of the latter groups have supported research on problems in connection with the canning of seafoods in Oregon, Washington and Alaska. Also the Northwest Branch Laboratory has carried on inspection of all canned salmon and other seafoods arriving in Seattle from Alaska. Please see also our reference to the Association's Western Branch Laboratory, Berkeley, Calif.

NEW ENGLAND FISH COMPANY,

1828 Exchange Bldg., Seattle 4, Wash.
Harry R. Beard, research director.

Laboratory related to mfg. fisheries products, vitamin products, etc. The laboratory is located at and operated in connection with this company's Canadian subsidiary, The Canadian Fishing Co., Ltd., foot of Gore Ave., Vancouver, B. C. Please see that reference.

SHELTON

RAYONIER INCORPORATED, Research Division,

Shelton, Wash.

Dr. Arthur N. Parrett, vice pres. in charge of research & development.

Product development and research laboratories at this location on chemical cellulose, silvichemicals; include chemistry, physics, chemical engineering. Dr. Edwin L. Lovell is research manager. Main offices of Rayonier Incorporated are 101 East 42nd St., New York 17, N. Y. Other laboratories of the company are located one at each mill.

SPOKANE

CENTENNIAL FLOURING MILLS CO.,

P. O. Box 2159, Spokane 10, Wash.

Product development, research and quality control laboratory related to mfg. flour, cereals, feeds, J. W. Montzheimer, chief chemist. Main office of the company is 340 Central Bldg., Seattle 4, Wash. Other laboratories are at Wenatchee, Wash., and Crown Mills, Portland, Ore. At the Portland mill, Eldred Walker is head of the laboratory, and Floyd Claypool is director of feed control.

HOLLISTER-STIER LABORATORIES,

South 105-7 Division St., Spokane 3, Wash.

Guy Hollister, president.

L. W. Maxey, vice pres., production manager.

Manufacturers, biologicals, allergy products, pharmaceuticals, etc.; Laboratory related to this production includes clinical, consulting, research.

VANCOUVER

GREAT WESTERN MALTING CO., INC.,

P. O. Box 119, Vancouver, Wash.

Merrill Hoff, chief chemist.

H. Abernathy, chemist.

Research and control laboratory related to mfg. malt products and by-products. The firm's executive representing the laboratory: Orme S. Kellett, superintendent.

LUCKY LAGER BREWING CO.,

Vancouver, Wash.

Please see our reference to this company at main office address, San Francisco, Calif.

70 WIS.

THE ENDOCRINE LABORATORIES OF MADISON, INC.,
5001 W. Belt Line Highway, Madison 5, Wis.
Elva G. Shipley, Ph.D., director of laboratories.

Custom laboratory service; includes product development, quality control, research. Roland K. Meyer, Ph.D., consultant.

FORBES LABORATORIES, INC.,
402 W. Lakeside St., Madison 5, Wis.
John G. Halen, president.

Pharmaceutical manufacturers; includes anterior pituitary hormones, other endocrines, and injectable specialties, for private label.

MARSHALL DAIRY LABORATORY, INC.,
14 Proudfoot St., Madison 3, Wis.
A. T. Benner, president.

Manufacturing laboratory producing and marketing rennet extract, rennin, cheese cultures, and certain laboratory apparatus for the cheese industry.

OSCAR MAYER & CO.,
910 Mayer Ave., Madison 1, Wis.
G. O. Mayer, vice president.
E. C. Sloan, vice pres. & research director.
Research and control laboratories related to meat packing and mfg. allied products. Floyd C. Olson, asst. research director; A. Paul Bowman, product control director.

OHIO CHEMICAL & SURGICAL EQUIPMENT CO., A Division of Air Reduction Company, Inc.,
1400 E. Washington Ave., Madison 10, Wis.
John Gilroy, Director of Research.

Product development, research and control laboratories at this location related to mfg. medical gases, therapy oxygen; anesthetic, therapeutic and resuscitative equipment. Oxygen pipeline equipment; Stille instruments. The parent company is Air Reduction Company, Inc., 60 East 42nd St., New York 17, N. Y., whose Research Laboratories are at Murray Hill, N. J.; L. I. Gilbertson, director of research. The chemical laboratory of Ohio Chemical & Surgical Equipment Co. is at 1177 Marquette St., Cleveland 14, Ohio.

SCIENTROL, INC., CO-OPERATIVE,
3228 University Ave., Madison 5, Wis.
H. L. Rasmussen, director.

Research and control laboratory at this location for an association of evaporated milk companies. Includes applied research projects and development of new products. Main office of Scientrol, Inc., Co-Operative, 912 University Bldg., Syracuse, N. Y.; Walter Page, gen. manager.

WISCONSIN ALUMNI RESEARCH FOUNDATION,
506 N. Walnut St., Madison 5, Wis.
Ward Ross, managing director.
Edwin O. Rosten, operations director.
Dr. Henry T. Scott, director of biological laboratory.
P. H. Derse, director, control laboratory.
George Kido, director, insecticide laboratory.
L. J. Teply, director, Projects & Public Relations.

From the first, the Foundation operated laboratory service as an adjunct to its licensing program. This expanded and developed to an important volume and now includes commercial consulting and analytical services in biochemistry, nutrition, foods, vitamin and mineral assay, and related fields. The Foundation was organized in 1925 as a means of channeling to the University of Wisconsin, and the best interests of the public at large, funds originating from valuable patents of Dr. Harry Steenbock relating to the production of Vitamin D in medicinals and foods by activation with ultra-violet rays.

WISCONSIN FARMCO SERVICE CO-OPERATIVE,
18 S. Thornton Ave., Madison 1, Wis.
Dr. Delmar S. Fink, director of research & quality control.

Product development, research and quality control laboratory related to mfg. and marketing of fertilizers. Other laboratories at Prairie du Chien, Green Bay and Whitewater, Wis.

RAHR MALTING CO.,
MANITOWOC

605 Washington St., Manitowoc, Wis.
W. G. Artis, technical director.
M. R. Sfot, research director.
R. F. Bowden, chief chemist.

Research and control laboratory related to mfg. malt products and by-products.

MILWAUKEE

AMBER LABORATORIES, INC.,
3456 N. Bufum St., Milwaukee 12, Wis.
S. Bernstein, Ph.D., director.
N. N. Bernstein, assistant director.

Research and control laboratory related to mfg. food, vitamin, enzyme, nutrition products, brewers' dried yeast.

AMERICAN BIO-SYNTHETICS CORPORATION, Milwaukee Research Institute Division,

710 W. National Ave., Milwaukee 4, Wis.

Hamilton A. Pinkalla, president & technical director.
W. A. Rosenthal, director, research & development.

The research institute extends consulting services in nutrition, fermentations, pharmaceuticals, synthetic resins, organic chemicals. Product development, research and quality control laboratories in these products and processes. Pilot plant available for complete evaluation of processes on semi-plant scale.

BLATZ BREWING COMPANY,

1120 N. Broadway, Milwaukee 1, Wis.
Donald G. Ruff, Supt. of Production.

Albert E. Boyer, Chief Chemist.

Product development, research and quality control laboratory related to mfg. Blatz beers. Includes chemistry, bacteriology, physics, biochemistry.

FROEDTERT MALT CORPORATION,

P. O. Box 712, Milwaukee 1, Wis.
Dwight L. Baker, director of research.

Otto C. Lucht, product control manager.

Product control laboratory, also research laboratory, at this location, as above. Branch laboratory, Winona, Minn., also Bauer-Schweitzer Malting Co., San Francisco, Calif.

CHR. HANSEN'S LABORATORY, INC.,

9015 W. Maple St., Milwaukee 14, Wis.
Dr. Leo Hansen, director of research.
R. G. Helmer, factory manager & director control laboratory.

M. W. Hales, manager of dairy division.

Research and control laboratory related to mfg. food products, cultures. Please see also our reference to this company, Little Falls, N. Y.

JEWETT & SHERMAN CO.,

106 W. Florida St., Milwaukee 1, Wis.

Research and control laboratory related to mfg. food products. Warren Frank and Horace Palmer, chemists.

ROBERT A. JOHNSTON CO.,

4023 W. National Ave., Milwaukee 1, Wis.
Daniel H. Wing, laboratory director.

Laboratory related to mfg. chocolate, cocoa, prepared products for dairy and ice cream trade, candies, bakery products. Includes research and development, new products, processes, customer service; control, raw material processes, finished products.

KOLMAR LABORATORIES, INC., Kolmar Research Center,
2344 N. Oakland Ave., Milwaukee 11, Wis.
H. Heinrich, Ph.D., director of research.

Product development, research and quality control laboratories at this location, related to mfg. cosmetics. Includes investigations on cosmetic materials. Main office of the company, 224 N. Broadway, Milwaukee 2, Wis. Other laboratories at Hollywood, Calif., and Port Jervis, N. Y.

CHAS. A. KRAUSE MILLING CO., Research & Control Laboratories,

4222 W. Burnham St., Milwaukee 15, Wis.

CANADA 71

E. L. Wimmer, manager of research.
R. Keely, chief chemist, control laboratory.
R. L. Slotter, manager of technical services.

Research and control laboratories at this location related to mfg. food, feed and industrial products from cereal grains. Main office of the company, 404 E. State St., Milwaukee 1, Wis.

REMERS-URBAN COMPANY,

141 W. Vine St., Milwaukee 1, Wis.

Adrian Kammeraad, director of research & product control.

Product development, research and quality control laboratory related to mfg. ethical pharmaceuticals. Others on the staff: C. Peterman, R. Lubnow.

THE KURTH MALTING COMPANY,

2100 South 43rd St., Milwaukee 46, Wis.

Eric Kneen, vice pres. and research director.

Product development and research laboratory related to mfg. malt; includes chemistry, microbiology.

THE LAKESIDE LABORATORIES, INC.,

1707 E. North Ave., Milwaukee 1, Wis.

Evan P. Helfaer, president.

Harvey L. Daiell, M.D., vice president & scientific director.

Related to manufacture of ethical pharmaceuticals, etc. Research includes chemistry, pharmacology, pharmaceutical, analytical and control. New structures lately added to the plant afford expanded facilities for research, including new pharmacological laboratories.

MILBREW, INC.,

3456 N. Buffum St., Milwaukee 12, Wis.

Sheldon Bernstein, Ph.D., director of research.

Product development, research and quality control laboratory related to mfg. "Milbrew" dried brewers' yeast, yeast extracts, feeds and food products. Includes chemistry, bio-chemistry, enzymology, nutrition.

MILWAUKEE FOOD LABORATORIES,

427 W. National Ave., Milwaukee 4, Wis.

Leonard Tarkow, bacteriologist, director.

Related exclusively to foods; includes consulting, research, analysis, quality control.

MILWAUKEE RESEARCH INSTITUTE DIVISION, American Bio-Synthetics Corporation,

710 W. National Ave., Milwaukee 4, Wis.

Please see our reference to American Bio-Synthetics Corporation, Milwaukee Research Institute Division, same address.

THE ORTHMANN LABORATORIES, INC.,

407 E. Michigan St., Milwaukee 2, Wis.

August C. Orthmann, president and director.

B. C. Samp, chief chemist.

Consulting laboratory at this location; includes analysis, research.

PABST LABORATORIES, Research Division of Pabst Brewing Company,

1037 W. McKinley Ave., Milwaukee 5, Wis.

Dr. J. Peter Kass, director of research.

Dr. W. H. Bartholomew, assistant director of research.

Microbiological and chemical research laboratories related to mfg. malt and food products, vitamins, antibiotics, enzymes, fine chemicals, fermentations. Dr. Jack Ziffer, chief of microbiology dept.; Dr. S. A. Morell, chief of organic chemistry dept.; H. H. Geller, chief of food products dept.; Dr. S. G. Gilbert, chief of malt research dept. Headquarters office of Pabst Brewing Company is 221 N. LaSalle St., Chicago 1, Ill.

PAUL-LEWIS LABORATORIES, INC.,

4253 N. Port Washington Ave., Milwaukee 12, Wis.

Paul Halmbacher, president.

Allan J. Barney, vice president.

Gordon Holz, secretary-treasurer.

Manufacturing chemists specializing in enzymes and other products for use in the brewing, dairy, pharmaceutical, meat, paper and related fields.

RED STAR YEAST & PRODUCTS CO.,
325 North 27th St., Milwaukee 8, Wis.

Robert T. Foote, vice president, research and production.

Gerald Reed, director of research.

Research and control laboratory related to mfg. yeast, vitamin, nutrition products. Dr. Henry J. Peppler, manager of research; Dr. Charles Keipper, director of products control. Main office of the company, 221 East Buffalo St., Milwaukee 2, Wis. Laboratory also at Oakland, Calif., to which please refer.

JOS. SCHLITZ BREWING CO.,
235 W. Galena St., Milwaukee 1, Wis.

L. O. Stammerberger, director of brewing operations.

Andrew Dawes, in charge of laboratories.

At this location, research and control laboratories related to the brewing industry.

THE STEPHL LABORATORIES,
1012 N. Third St., Milwaukee 3, Wis.

H. C. Olien, director.

Chemists, bacteriologists, consultation; includes research, analysis, control of mfg. on meat and other food products, beer, beverages, water, grain, oils.

VITAMIN PRODUCTS COMPANY,
2023 W. Wisconsin Ave., Milwaukee 3, Wis.

Dr. Royal Lee, president.

Research and control laboratory related to mfg. vitamin and nutrition products, food products. Above is main office address; laboratory is at Brookfield, Wis.

PLYMOUTH

LAKESHIRE-MARTY COMPANY,
Plymouth, Wis.

Research and quality control laboratories related to mfg. food products, principally cheese and cheese products; equipped for bacteriological and chemical work: Harold C. Steinke, director. This is a division of The Borden Company, 350 Madison Ave., New York 17, N. Y.

THORP

FOREMOST-BLUE MOON CHEESE, INC.,
Thorp, Wis.

Lyle S. Christensen, chief chemist.

Manufacturers of dairy products, cheese, powdered milk, etc. Research and control laboratory related to this production.

WAUKESHA

DAIRYLAND FOOD LABORATORIES, INC.,
419 Frederick St., Waukesha, Wis.

Merle G. Farnham, president.

Dr. John H. Nelson, director of research.

Manufacturers of enzymes and enzyme modified products for the dairy and food industries. Lipase enzyme preparations for cheese flavor development; synthetic cheese flavor. Enzyme modified whole milk powder for milk flavor, for buttermilk flavor, for natural butter flavor. Research, quality control and development laboratory related to this production.

CANADA

ALASKA PINE & CELLULOSE LIMITED, Research Division,
8809 S. Heather St., Vancouver 14, B.C.

Dr. Edwin L. Lovell, director of research.

Product development, research and control laboratory related to production as indicated. Includes chemistry and physics.

AMERICAN CAN COMPANY OF CANADA LIMITED, Technical Service Laboratory,

395 Victoria St. North, Hamilton, Ont.

Harold P. Stevens, manager.

This is the Canadian affiliate of American Can Co., 100 Park Ave., New York 17, N.Y., to which please refer.

ANGLO-CANADIAN PULP & PAPER MILLS LIMITED,
10 Blvd. des Capucins, Quebec 3, Que.

Please see our reference to Northeastern Paper Products Limited, same address.

NORMAN L. ARMSTRONG LTD.,
325 Howe St., Vancouver 1, B. C.
David H. Barbour, Manager.

Industrial and consulting chemists. Includes control and development laboratory associated with British Columbia Packers Ltd., foot of Campbell Ave., Vancouver 4, B. C. In that connection it is concerned with fresh, frozen and canned fish; fish and whale meal, oil, solubles and by-products.

ARNER COMPANY, LIMITED,
Fort Erie, Ont.
Basil Leavey, manager.

Pharmaceutical chemists, special formulae exclusively. Complete laboratories under William Harlow, bio-chemist. This is the Canadian plant of The Arner Company, Inc., Buffalo, N. Y., to which please refer.

ATLANTIC REGIONAL LABORATORY, National Research Council,
Halifax, Nova Scotia.

Director: Dr. E. Gordon Young.

The Laboratory at present is organized with sections on biology, chemistry, metallurgy and engineering. The major activities in research are concerned with fundamental and applied aspects of the seaweeds of the region, certain problems encountered in the manufacture of pulp and paper and of steel, the preservation of fish fillets, and the drying of plant material. The Laboratory is designed to serve the industries of the area on a co-operative basis, and to assist in the development of the natural resources. It is situated on the campus of Dalhousie University, and members of the staff co-operate in teaching in the graduate faculty. The Laboratory occupies a building with 20,000 square feet of floor space, which contains some 45 research rooms and offices, an animal house, machine and carpenter shops, a library and a pilot plant. Please see also our reference to National Research Council, Ottawa, Ont.

AYERST, MCKENNA & HARRISON, LTD., Research & Biological Laboratories,

P. O. Box 6115, Montreal, Que.,
Gordon A. Grant, Ph.D., director of research.

Roger Gaudry, asst. director of research.

Research and control laboratories related to mfg. pharmaceuticals, glandular products, biologicals, nutrition products, organic chemicals. The company's general offices also are at this address. The affiliated company in the United States is Ayerst Laboratories Division, American Home Products Corporation, 22 East 40th St., New York 16, N. Y.; please see the latter reference.

BRITISH COLUMBIA PACKERS LTD.,
Foot of Campbell Ave., Vancouver 4, B. C.

For the company's research and development laboratory, please see our reference to Norman L. Armstrong Ltd., Vancouver 1, B. C.

BRITISH COLUMBIA RESEARCH COUNCIL

Point Grey, Vancouver 8, B.C.

Director: G. M. Schrum.

Assistant to the director: D. S. Smith.

The Council serves provincial industry through industrial research. It maintains laboratories and a scientific staff, and it initiates new industrial and scientific research. It also assists in co-ordinating the work of other research units, and extends advice and consultation to industrial firms.

The organization includes Divisions, and the following enumeration indicates the fields of research and the respective heads: Applied biology, P. C. Trussell; chemistry, R. H. Wright; engineering, R. W. Klinck; physics, J. E. Breeze; technical services, D. S. Smith. The present staff includes 39 professional, seven office and ten other personnel. The Council's laboratories are located on the campus of the University of British Columbia, and the Council works in close co-operation with the university.

THE BRITISH DRUG HOUSES (CANADA) LIMITED,
Barclay Ave., Queensway, Toronto 14, Ont.
Bohdan Barma, Ph.D., director of research & scientific services.

Product development, research and quality control laboratory related to mfg. pharmaceuticals. Includes analytical, organic, pharmaceutical and physical chemistry. J. R. Dowey, chief analyst.

CANADA PACKERS LIMITED

2200 West St. Clair Ave., Toronto 9, Ont.

Dr. L. J. Rubin, director of research.

W. A. Brechin, chief chemist, control section.

Research and control laboratory related to mfg. meat products; includes pharmaceuticals, glandular products, biologicals. The firm's executive representing the laboratory, Dr. G. F. Clark.

THE CANADA STARCH CO. LIMITED, Laboratories,
Cardinal, Ont.

K. T. Knechtel, chief chemist.

Product development and control laboratory at this location related to mfg. starch, dextrine, corn syrup, dextrose, corn oil. Includes analytical chemistry and bacteriology. Main office of the company, Sun Life Bldg. Montreal 2, Que.

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CANADA, GOVERNMENT DEPARTMENTS,
Ottawa, Ont.

The government of Canada is centralized in the nation capital city, Ottawa, Province of Ontario. And in the text which follows, where mention is made of the various government agencies and departments, the address is Ottawa, Ont., unless otherwise stated.

The Departments of the Canadian government which require comment and explanation in this summary are principally the Department of Agriculture, the Department of National Health & Welfare, and Department of Fisheries. Also we make extended reference separately to the National Research Council, and we show two regional laboratories which it administers.

It should be noted, moreover, that the scientific activities of the national government are supplemented by organizations within the respective provincial governments. In this connection please see our reference, alphabetically, to the Ontario Research Foundation and the British Columbia Research Council. And there are others equally important, but perhaps more intimately identified with their respective Universities.

The Department of Resources & Development, formerly prominent as an agency of the Canadian government, has been absorbed by the Department of Northern Affairs & National Resources. It appears that the activities do not now come within the scope of this compilation.

Reference to Canada's Atomic Energy Control Board appears alphabetically as part of our heading, National Research Council. The government's principal atomic energy facilities are at Chalk River, Ont. And at that Chalk River location, the United States Atomic Energy Commission has the following representative: Allen J. Vander Weyden, Atomic Energy Commission Liaison Officer, Technical Co-Operation Branch, Chalk River, Ont.

DEPARTMENT OF AGRICULTURE

Ottawa, Ont.

Minister of Agriculture, J. G. Gardiner.

Also on the staff are: Deputy Minister, J. G. Taggart; Information Service, S. R. N. Hodgins, Director of Information. An important agency of the Dept. of Agriculture is Science Service, K. W. Neatby, director; W. E. van Steenburgh, associate director. There are a number of Divisions, each with responsibility in its own field of science. The list is as follows: Bacteriology Division, H. Katzenelson, chief; Division of Botany & Plant Pathology, W. F. Hanna, chief; Division of Chemistry, A. R. G. Emslie, chief; Division of Entomology, R. Glen, chief; Division of Forest Biology, M. L. Prebble, chief; Division of Plant Protection, W. N. Keenan, chief.

A second unit of the Department of Agriculture is the Experimental Farms Service; the director of the Administrative Division is C. H. Goulden. The Service has a Farms Division, also Branch Experimental Farms, and stations, substations and laboratories.

DEPARTMENT OF NATIONAL HEALTH & WELFARE,
Ottawa, Ont.

Minister: Paul Martin.

The Health Branch of this government department is headed by F. W. Jackson, M.D., Director of Health Services. The various bureaus are as follows: Environmental Health & Special Projects, K. C. Charron, M.D., medical officer; Research Development, B. D. B. Layton, M.D. medical officer; Laboratory of Hygiene, J. Gibbard, chief.

There is a Food & Drugs Division of the Department of National Health & Welfare; C. A. Morrell is director of the Division; and L. I. Pugsley is chief of Laboratory Services.

PARTMENT OF FISHERIES,
Ottawa, Ont.

Minister of Fisheries, James Sinclair.

In the direction which commands our interest, the Department functions largely through the Fisheries Research Board of Canada; chairman, Dr. J. L. Kask; assistant chairman, Otto Young. Seven research and experimental stations are operated under the supervision of directors who are members of the staff of the Fisheries Research Board. One of them is the Technological Station at Halifax, N. S., which we show as a separate reference alphabetically under Fisheries Research Board of Canada. The other six are as follows: Research Station, St. John's, Newfoundland, Dr. W. Templeton, director; Biological Station, St. Andrews, N. B., Dr. J. L. Hart, director; Biological Station, Nanaimo, B.C., Dr. A. W. H. Needler, director; Experiment Station, Grand River, Que., Dr. H. Fougner, director; Research Station, Winnipeg, Man., Dr. W. Kennedy, director; Experiment Station, Vancouver, B. C., Dr. H. L. A. Tarr, director.

CANADIAN BREWERIES, LTD.,

285 Victoria St., Toronto, Ont.

Dr. W. D. McFarlane, Research Director.

An affiliated unit of this company is Carling Brewing Company, 9400 Quincy Ave., Cleveland 6, Ohio, to which please refer.

CANADIAN CANNERS LIMITED, Aylmer Products,

19 Jackson St. East, Hamilton, Ont.

L. S. White, manager, research & quality control.

Central laboratories at this location, related to canned and frozen foods. These are the company's principal laboratory facilities; conduct applied research and serve as a main point from which to supervise quality control in the 56 factories. In addition to an analytical area and a microbiological area, there are test kitchens and pilot plant, also an extensive library.

THE CANADIAN FISHING COMPANY LTD.,

Foot of Gore Ave., Vancouver 4, B. C.
G. F. Boothby, chemist in charge.

Research and control laboratory at this location; canning and producing plants in a number of cities. Includes also technical control and services related to canning salmon and tuna; smoking fish, freezing fish in the round and in fillets or steaks; production of fish meal and oil and vitamin bearing oils. This is the Canadian subsidiary of New England Fish Co., Seattle, Wash., to which please refer.

CANADIAN INTERNATIONAL PAPER CO.,

Sun Life Bldg., Montreal, Que.

Please see our reference to this company's subsidiary, Industrial Cellulose Research Limited, Hawkesbury, Ont.

COURTAULDS (CANADA) LIMITED, Research Laboratory,

Cornwall, Ont.

N. I. Battista, research manager.

Product development and research laboratories which include various aspects of chemical research and pilot plant facilities for producing viscose products, textile and tire yarns. Also on the staff: J. E. Kelly, dept. head; B. Sutcliffe, pilot plant; A. Sandig, chemical research.

OMINION LINSEED OIL CO., LTD., McArthur-Irwin Division,

7 Bates Road, Montreal 8, Que.

D. E. Wiley, vice president.

R. J. Faquin, Ph.D., chief chemist.

Product development and research laboratory related to mfg. pigment colors, organic and inorganic, lead oxides. Others on the staff: R. Bazin, M. M. Ells.

J. T. DONALD & CO., LIMITED,

1181 Guy St., Montreal 25, Que.

A. E. Ross, vice pres. & general manager.

S. G. Lipsett, director of investigation & research.

R. N. Barrett, director of analytical laboratories.

B. Farrar, chief chemist.

Consulting and research chemists; chemical engineers and economists. Other departments are engineering, market research, sanitary engineering; J. H. Ross is research consultant.

FINE CHEMICALS OF CANADA LIMITED

124 Pharmacy Ave., Toronto 13, Ont.

E. G. Dentay, president.

L. V. Skazin, chief chemist.

Research laboratory related to mfg. pharmaceuticals, organic chemicals, glandular products, biologicals, vitamin products.

FISHERIES RESEARCH BOARD OF CANADA, Technological Station, Halifax, Nova Scotia,
Director: Dr. S. A. Beatty.

The Technological Station at Halifax is one of seven research laboratories of the Fisheries Research Board of Canada, under the Minister of Fisheries, head office, West Block, Ottawa, Ont. It undertakes research into problems of the fishing industry in the fields of bacteriology, biochemistry, organic chemistry, physical chemistry and engineering. The most active problems at the present time are: The bacteriology of fresh and salted fish; growth factors in fish and fish products; the biochemistry and physical chemistry of fish muscle proteins; and the chemistry of herring oil. Total staff of the laboratory is approximately fifty. Please see also our general reference to Canada government departments, alphabetically under Canada.

CHARLES E. FROSST & CO.,
3571 St. Antoine St., Montreal, Que.
E. Lozinski, M.D., director of research & control laboratories.

Product development, research and control laboratory related to mfg. pharmaceuticals; includes chemistry, pharmacy, pharmacology. Others on the staff: E. Dechene, control laboratory; J. M. Miller, research laboratory; Dr. G. W. Holden, chemistry.

GENERAL TESTING LABORATORIES CO. LTD.,
755 Beatty St., Vancouver 3, B. C.
F. H. Cottrell, president.
C. Burton-Smith, manager.

Analytical and consulting chemists. Includes marine oils and meals, rendered products, oilseed and agricultural products. D. S. Brake, chief chemist.

THE GRIFFITH LABORATORIES, LIMITED,
109-117 George St., Toronto 2, Ont.
Allen H. Klopp, chief chemist.
Dr. John A. Ziegler, research laboratory.

Product development, research and quality control laboratory related to mfg. meat curing salts, spices and seasonings, flavors, antioxidants, etc. This is a branch of The Griffith Laboratories, Inc., Chicago Ill., to which please refer.

FRANK W. HORNER LIMITED,
5485 Ferrier St., Montreal 16, Que.
L. Mitchell, Ph.D., director of research.

Product development, research and control laboratory related to mfg. pharmaceuticals; includes biochemistry, organic chemistry, pharmacology, endocrinology. Also on the staff, G. Raith, control laboratory.

A. H. HOWARD CHEMICAL CO., LTD., Agricultural Laboratories,
3 McCarthy St., Orangeville, Ont.
Ralph T. Howard, vice president.

Product development and quality control laboratory related to mfg. insecticides, veterinary pharmaceuticals; also consultants to the feed industry.

HOWARDS & SONS (CANADA) LTD.,
247 Dunbar Ave., Mount Royal, Montreal, Que.
T. H. Glynn Michael, director of research.

Product development, research and control laboratory located at this company's plant, P. O. Box 995, Cornwall, Ont. Related to mfg. cyclohexanol and derivatives, including esters, ketones and substitution products.

B. GUY HUNT & CO.,
153 Grain Exchange, Winnipeg, Man.
E. A. Higham, manager.

Analytical, industrial and consulting chemists. Laboratory includes primarily cereal testing in the form of protein determination, oil determination, feed analysis; flour milling control by analysis and baking tests; also specializing in packing house products and control.

INDUSTRIAL CELLULOSE RESEARCH LIMITED,

Hawkesbury, Ont.

Sigmund Wang, president.

D. E. Read, executive vice president.

F. R. Charles, director, rayon research.

E. J. Howard, director, cellulose research
and pulp development.

Product development, research and control laboratories on conversion of wood to cellulose and rayon and similar products. Include cellulose chemistry; organic, inorganic and physical chemistry, and chemical engineering. This is a wholly-owned subsidiary of Canadian International Paper Co., Sun Life Bldg., Montreal, Que. It carries on research and development for the Canadian plants of the latter company, and also to some extent the plants of International Paper Co. in the United States.

INGRAM & HELL LIMITED,

256 McCaul St., Toronto 2B, Ont.

C. C. White, president.

W. F. Jones, director, pharmaceutical division.

Manufacturers, also importers of pharmaceuticals, physician's, hospital and clinical laboratory supplies. Product development, research and control laboratory related to this production.

LAURENTIAN LABORATORIES LIMITED,

442 St. Gabriel St., Montreal 1, Que.

W. J. Lucas, manager.

Control laboratory related to mfg. pharmaceuticals. This is a department of National Drug & Chemical Co. of Canada Ltd., same address.

LIBBY, McNEILL & LIBBY OF CANADA LTD.,

330 Richmond St., Chatham, Ont.

H. R. Klinck, laboratory manager.

Research and control laboratory related to canned and frozen foods. This is the Canadian company of Libby, McNeill & Libby, Chicago, Ill., U.S.A., to which please refer.

MONSANTO CANADA LIMITED,

1550 Rand Ave., Vancouver, B. C.

Arthur F. McKay, director, research & development.

Product development and control laboratories at this location on resins, adhesives and surface coatings. They are represented by Arthur F. McKay, as shown above, also Ville LaSalle, Que. Head of the laboratories at Vancouver is C. A. Moore. Please see also our reference to Monsanto Canada Limited, Ville LaSalle, Que.

MONSANTO CANADA LIMITED, L. G. Ryan Research Laboratories,

425 St. Patrick St., Ville LaSalle, Que.

Arthur F. McKay, director, research & Development.

J. K. Laflamme, development manager.

This company manufactures plastics, adhesives, plasticizers, oil additives, pharmaceuticals, textile pulp and paper, and agricultural chemicals. Product development and research laboratory at this location related to this production. Includes organic chemistry, analytical and physical chemistry, engineering. The address shown above is also main office of the company. Product development and control laboratory also at this location, related to same products as mentioned. This laboratory comes under the office of the director of research and development; it is under the direction of A. Vendette, chief chemist. Also at Oakville, Ont., Monsanto Canada Limited has product development and control laboratories on plastics, under the direction of G. Parker. Please see also our reference to this company, Vancouver, B. C.

NATIONAL DRUG & CHEMICAL CO. of CANADA LTD.,

442 St. Gabriel St., Montreal 1, Que.,

For this company's control laboratory, please see our reference to Laurentian Laboratories Limited, same address.

NATIONAL RESEARCH COUNCIL.

National Research Council Bldg., 100 Sussex Drive, Ottawa, Ont.

President: E. W. R. Steacie.

Vice President (Scientific): B. G. Ballard.

Vice President (Administration): E. R.

Birchard.

This is an institution of the Canadian government. Its functions are two-fold: Operation of central laborato-

ries on the federal level for pure and applied research; also support of graduate research in the universities by means of grants and scholarships. The total staff numbers nearly 2,000, and the annual appropriation is some twenty million dollars.

The Council is organized by divisions, of which the following are located at the Sussex Drive address; Applied Biology, W. H. Cook, director; Applied Physics, L. E. Howlett, director; Pure Chemistry, Leo Marion, director; Pure Physics, G. Herzberg, director. The following divisions of the Council occupy quarters at a new location, five miles from downtown Ottawa, on the Montreal Road, where a 370-acre site affords modern engineering facilities; Applied Chemistry, Ira E. Puddington, director; Building Research, R. F. Legget, director; N. B. Hutchison, assistant director; Mechanical Engineering (including aeronautical and hydraulic laboratories), J. H. Parkin, director; D. C. MacPhail, assistant director; Radio and Electrical Engineering, B. G. Ballard, director; D. W. R. McKinley, assistant director.

Also a part of the Council but not itself directly operating laboratory facilities is the Division of Medical Research, J. B. Collip, director; G. H. Ettinger, assistant director. One unit of the National Research Council is the Atlantic Regional Laboratory, Halifax, N. S.; another important unit is the Prairie Regional Laboratory, Saskatoon, Sask. We make separate reference to both of these latter, shown alphabetically under their respective titles. At Norman Wells, N. W. T., the Council operates a Northern Regional Laboratory, devoted chiefly to building problems in the North, e.g., permafrost research.

Some 8,000 inquiries from industry are answered yearly by the Council's Technical Information Service, F. G. Green, officer-in-charge. Licensing arrangements for patents issued as a result of the Council's research program are handled by a special crown corporation, called Canadian Patents & Development Limited, E. R. Birchard, president.

NATIONAL SEA PRODUCTS LIMITED, Maritime-National Fish Division,

35-51 Lower Water St., Halifax, N. S.
Andrew Cunningham, Director, Chemical Laboratory & By-Products Manager.

Chemical laboratory at this location related to processing fresh, frozen and smoked fish and by-products. Includes product development, research and quality control.

NORTHEASTERN PAPER PRODUCTS LIMITED,

10 Blvd. des Capucins, Quebec 3, Que.

Dr. K. C. Logan, director of development.

Product development and research laboratory related to mfg. newsprint, board, sulphite pulp, kraft papers, kraft pulp; includes chemistry and physics. This is a unit of Anglo-Canadian Pulp & Paper Mills Limited, also Anglo-Newfoundland Development Co., Ltd., both same address, and for which companies also Dr. Logan is director of development. Other laboratories at Grand Falls, Newfoundland.

THE OGILVIE FLOUR MILLS CO., LTD.,

950 Mill St., Montreal, Que.

Dr. Kenneth M. Gaver, director of research.

A. M. Barton, assistant director of research.

Product development, research and quality control laboratory related to mfg. flour, feed, cake mixes, starch, dextrins, amino acids. Also on the staff, W. J. Eva. Other laboratories also at Montreal, and at Fort William, Ont., and Winnipeg, Man.

ONTARIO RESEARCH FOUNDATION,

43 Queen's Park, Toronto 5, Ont.

Chairman: H. M. Turner.

Vice Chairman: E. G. Baker.

Director of research: Dr. H. B. Speakman.

The Foundation is a non-profit organization available to the public and to industry for assistance in technical problems. The Province of Ontario on occasion sponsors research, as do many other governments both inside and outside of Canada, as well as private industrial firms.

The scope of the work and the fields of activity are indicated by the following enumeration of the various departments, each with a considerable staff: Department of biochemistry, director, W. C. Henry; department of chemistry, director, A. E. R. Westman; department of engineering and metallurgy, director, P. E. Cavanagh; department of industrial research services, director, D. F. Mac-

a; department of mathematical statistics, director, D. DeLury; department of parasitology, director, A. M. Ellis; department of physiography, Senior Research Fellow, L. J. Chapman; department of textiles, director, A. Goodings.

Affiliation of the Foundation with universities is unofficial, with one exception. The department of parasitology at the Ontario Research Foundation also functions as the teaching department of parasitology for the University of Toronto, and the director, Dr. Fallis, is also professor of parasitology at the University.

LYMER CORPORATION LIMITED, Research & Development Division,

Sarnia, Ont.

Dr. E. J. Buckler, manager, research & development division.

Dr. H. L. Williams, assistant manager.

N. J. McCracken, assistant manager.

Product development and research laboratory related to mfg. "Polysar" chemical rubber; includes chemistry, physical chemistry, chemical engineering, physics.

RAIRIE REGIONAL LABORATORY, National Research Council, Saskatoon, Sask.

Director, Dr. G. A. Ledingham.

Research in the Laboratory is related to the utilization of agricultural materials. A broad program of applied and fundamental work is in progress in four main research sections, summarized as follows: (1) Chemistry of Plant Products, primarily biochemical, with three groups for research in carbohydrates, fats and oils, and proteins. (2) Plant Biochemistry, with two groups studying the bio-synthesis of cellulose, hemicellulose, lignin and other cell-wall materials. (3) Fermentations and Microbiology. (4) Engineering and Process Development. Prairie Regional Laboratory is a unit of the National Research Council, Ottawa, Ont., to which please refer under that title.

THE PROCTER & GAMBLE CO. OF CANADA LIMITED,

Burlington St., Hamilton, Ont.

J. B. McLarty, chemical division manager.

K. F. Staples, products research division manager.

Product development and quality control laboratory related to mfg. shortenings, edible oils, soaps, shampoos, synthetics.

ROBIN HOOD FLOUR MILLS LIMITED,

226 Board of Trade Bldg., Montreal, Que.

Control laboratories related to flour milling, at Montreal, also in mills at Humberstone, Ont., Moos Jaw and Saskatoon, Sask., and Calgary, Alta. This is the Canadian company of International Milling Co., Minneapolis, Minn., to which please refer. Chief control chemist, E. J. Kiteley, Minneapolis, Minn.

SEAWEED PRODUCTS LIMITED,

P. O. Box 300, Yarmouth, N. S.

D. Booy, manager, director of laboratory.

Product development, research and quality control laboratory related to utilization of all varieties of seaweed.

SMITH, KLINE & FRENCH INTER-AMERICAN CORPORATION,

300 Laurentian Blvd., Montreal 9, Que.

R. F. Daily, general manager.

R. F. Bethel, control manager.

Control laboratories related to mfg. pharmaceutical specialties. The parent organization is Smith, Kline & French Laboratories, Philadelphia, Pa., U.S.A., but the Canadian corporation here described is not a department or division of the Philadelphia company.

WARNER-LAMBERT CANADA LIMITED,

727 King St., W., Toronto, Ont.

J. M. Werry, plant superintendent.

Control laboratory on mfg. drugs, cosmetics, raw materials. This is a unit of Warner-Lambert, Inc., New York, N. Y., U.S.A., to which please refer.

WESTERN LABORATORIES LIMITED,

456 W. Broadway, Vancouver 10, B. C.

Ralph T. Cunningham, general manager.

F. Fleming, chief chemist.

Product development and control laboratory related to mfg. pharmaceutical products. This is a unit of Cunningham Drug Stores, Ltd., same address.

WHITMOYER LABORATORIES, LTD.,

Water St., Yarmouth, Nova Scotia.

L. E. Rodney, secretary.

Control laboratory on cod liver oil and vitamin concentrates. This is a branch of Whitmoyer Laboratories, Inc., Myerstown, Pa., where much of the scientific phases of the work are performed.

ALPHABETICAL INDEX

Finding list for companies or individuals represented in the laboratory references.

A

Abbott Laboratories, North Chicago, Ill.

Adolph's Food Products Mfg. Co., Los Angeles, Calif.

Agricultural Laboratories, Inc., Columbus, Ohio.

Air Reduction Co., Ohio Chemical & Surgical Equipment Co., Madison, Wis.

All-Chem Laboratory, Inc., Bloomington, Ill.

Allied Analytical & Research Laboratories, Dallas, Texas.

Allied Chemical & Dye Corporation, New York, N. Y.

Allied Chemical & Dye Corporation, Mutual Chemical Division, Baltimore, Md.

Allied Chemical & Dye Corporation, National Aniline Division, Buffalo, N. Y.

Allied Laboratories, Inc., Kansas City, Mo.

Allied Laboratories, Inc., Pitman-Moore Co. Division, Indianapolis, Ind.

Allied Mills, Inc., Chicago, Ill.

Aloe, A. S., Co., St. Louis, Mo.

Amber Laboratories, Inc., Milwaukee, Wis.

American Bakeries Co., Atlanta, Ga.

American Bio-Chemical Laboratory, Inc., Baltimore, Md.

American Bio-Synthetics Corporation, Milwaukee, Wis.

American Can Co., New York, N. Y.

American Chemical Paint Co., Ambler, Pa.

American Cyanamid Co., New York, N. Y.

American Dry Milk Institute, Inc., Chicago, Ill.

American Home Foods, Inc., New York, N. Y.

American Home Products Corporation, New York, N. Y.

American Institute of Baking, Chicago, Ill.

American Laboratories, Inc., Gainesville, Ga.

American Maize Products Co., Roby, Ind.

American Meat Institute Foundation,

Chicago, Ill.

American Molasses Co., New York, N.Y.

American Pharmaceutical Association,

Washington, D. C.

American Pharmaceutical Co., New York, N. Y.

American Potash & Chemical Corp., Trona, Calif.

American Research & Testing Laboratories, Chicago, Ill.

American Scientific Laboratories, Inc., Madison, Wis.

American Seal-Kap Corporation, Long Island City, N. Y.

American Serum Co., Sioux City, Ia.

American Spectrographic Laboratories, San Francisco, Calif.

American Tobacco Co., New York, N. Y.

American Sugar Refining Co., Philadelphia, Pa.

Ames Co., Inc., Elkhart, Ind.

Analytical Chemists of Cincinnati, Cincinnati, Ohio.

Anchor Serum Co., South St. Joseph, Mo.

Anderson Laboratories, Fort Worth, Texas.

Andrew Jergens Co., Cincinnati, O.

Anheuser-Busch, Inc., St. Louis, Mo.

Anresco, San Francisco, Calif.

Applied Science Laboratories, Inc., State College, Pa.

INDEX - Continued

- Arapahoe Chemicals, Inc., Boulder, Colo.
 Archer, Daniels Midland Co., Minneapolis, Minn.
 Arlington-Funk Laboratories, Division of U. S. Vitamin Corporation, Yonkers, N. Y.
 Armour & Company, Chicago, Ill.
 Armour Research Foundation, Illinois Institute of Technology, Chicago, Ill.
 Armstrong Cork Co., Lancaster, Pa.
 Arner Company, Inc., Buffalo, N. Y.
 Ashe Lockhart, Inc., Kansas City, Mo.
 Associated Seed Growers, Inc., New Haven, Conn.
 Atkinson, Frederick C., Inc., Indianapolis, Ind.
 Atlas Powder Co., Wilmington, Del.
 Avoset Company, San Francisco, Calif.
 Ayerst Laboratories, Division of American Home Products Corporation, New York, N. Y.
- B**
- Babbitt, B. T., Inc., Albany, N. Y.
 Baker Castor Oil Co., Bayonne, N. J.
 Baker, J. T., Chemical Co., Phillipburg, N. J.
 Baker, Walter, Chocolate & Cocoa Division, General Foods Corp., Dorchester, Mass.
 Ball, C. Olin, Consulting Food Technologist, New Brunswick, N. J.
 Baltimore Biological Laboratory, Inc., Division of Becton, Dickinson & Co., Baltimore, Md.
 Bandy Laboratories, Inc., Temple, Tex.
 Barbasol Co., Indianapolis, Ind.
 Barnes, S. O., & Sons, Inc., Gardena, Calif.
 Barnett Laboratories, Inc., Long Beach, Calif.
 Barry Laboratories, Inc., Detroit, Mich.
 Barton Mills, Inc., Omaha, Neb.
 Basic Vegetable Products, Inc., Vacaville, Calif.
 Bates Laboratories, Inc., Chicago, Ill.
 Battelle Memorial Institute, Columbus, Ohio.
 Bauer & Black Division, The Kendall Co., Chicago, Ill.
 Baxter, Don, Inc., Glendale, Calif.
 Baxter, H. C., & Bro., Brunswick, Maine.
 Baxter Laboratories, Inc., Morton Grove, Ill.
 Beacon Milling Co., Inc., Research Laboratories Division, Cayuga, N.Y.
 Beard, John, Memorial Foundation, San Francisco, Calif.
 Beatrice Foods Co., Chicago, Ill.
 Beckman Instruments, Inc., Beckman Division, Fullerton, Calif.
 Becton, Dickinson & Co., Baltimore Biological Laboratory, Inc., Division, Baltimore, Md.
 Beebe Laboratories, Inc., St. Paul, Minn.
 Beech Nut Packing Co., Canajoharie, N. Y.
 Ben Venue Laboratories, Inc., Bedford, Ohio.
 Bendiner & Schlesinger Co., New York, N. Y.
 Benzol Products Co., Newark, N. J.
 Berkeley Yeast Laboratory, Berkeley, Calif.
 Best Foods, Inc., Bayonne, N. J.
 Betz, W. H. & L. D., Philadelphia, Pa.
 Biochemical Procedures, Beverly Hills, Calif.
 Biochemical Research Laboratories, Inc., Chicago, Ill.
 Bioproducts, Inc., Warrenton, Ore.
 Bio-Ramo Drug Co., Inc., Baltimore, Md.
 Bio-Research Laboratories, Berkeley, Calif.
 Biorganic Laboratories, Inc., East Paterson, N. J.
 Bios Laboratories, Inc., New York, N. Y.
 Bio-Science Laboratories, Los Angeles, Calif.
 Birds Eye Division, General Foods Corporation, Boston, Mass.
 Biscayne Chemical Laboratories, Inc., Miami, Fla.
 Bjorksten Research Laboratories, Madison, Wis.
- Blackman Brands, Inc., South Hackensack, N. J.
 Blatz Brewing Co., Milwaukee, Wis.
 Block Bros. Tobacco Co., Wheeling, W. Va.
 Block Drug Co., Jersey City, N. J.
 Blue Moon Cheese, Inc., Foremost, Thorp, Wis.
 Bon Ami Co., New York, N. Y.
 Boney, Dr., Laboratories, College Station, Texas.
 Borden Co., New York, N. Y.
 Boston Research Division, United States Testing Co., Inc., Boston, Mass.
 Botany Mills, Inc., Passaic, N. J.
 Bowser-Morner Testing Laboratories, Dayton, O.
 Branchflower, Lyle, Co., Seattle, Wash.
 Brewer & Co., Inc., Laboratories Division, Worcester, Mass.
 Bridgeport Testing Laboratory, Bridgeport, Conn.
 Bristol, Laboratories, Inc., Syracuse, N. Y.
 Bristol-Myers Co., New York, N. Y.
 Brookside Research Laboratories, Inc., New Knoxville, Ohio.
 Brown & Williamson Tobacco Corporation, Louisville, Ky.
 Buckman Laboratories, Inc., Memphis, Tenn.
 Buffington's, Inc., Worcester, Mass.
 Burroughs Wellcome & Co., (USA), Inc., Tuckahoe, N. Y.
 Burrus Mills, Inc., Dallas, Texas.
- C**
- Calavo, Incorporated, Los Angeles, Calif.
 Calgon, Inc., Pittsburgh, Pa.
 California Fig Institute, Fresno, Calif.
 California Packing Corporation, San Francisco, Calif.
 California Spray-Chemical Corp., Richmond, Calif.
 California State Bureau of Livestock Disease Control, State Dept. of Agriculture, Sacramento, Calif.
 California Walnut Growers Association, Los Angeles, Calif.
 Callison, I. P., & Sons, Chehalis, Wash.
 Campbell Soup Co., Camden, N. J.
 Campbell Taggart Research Corp., Dallas, Texas.
 Carbide & Carbon Chemicals Co., South Charleston, W. Va.
 Carey Salt Co., Hutchinson, Kans.
 Cargill, Inc., Minneapolis, Minn.
 Carling Brewing Co., Cleveland, Ohio.
 Carnation Company, Los Angeles, Calif.
 Carnrick, G. W., Co., Newark, N. J.
 Carroll Dunham Pharmacal Co., New Brunswick, N. J.
 Carroll, Robert B., Ph.D., Consultant, Greenwich, Conn.
 Carus Chemical Co., Inc., LaSalle, Ill.
 Celanese Corporation of America, Summit, N. J.
 Centennial Flouring Mills Co., Seattle, Wash.
 Central Pharmacal Co., Seymour, Ind.
 Central Soya Co., Inc., Fort Wayne, Ind.
 Central Soya Co., Inc., McMillen Feed Mills Division, Decatur, Ind.
 Certified Laboratories, Inc., New York, N. Y.
 Chaney, Albert A., Chemical Laboratory, Glendale, Calif.
 Charlton Laboratories, Inc., Portland, Ore.
 Chase Chemical Co., Newark, N. J.
 Chattanooga Bakery, Inc., Chattanooga, Tenn.
 Chattanooga Medicine Co., Chattanooga, Tenn.
 Chemirad Corporation, Port Washington, N. Y.
 Chemstrand Corporation, Decatur, Ala.
 Chicago Biological Research Laboratories, Chicago, Ill.
 Chicago Dairy & Food Laboratories, Chicago, Ill.
 Chicago, Sanitary District of, Chicago, Ill.
 Christina, Vincent, & Co., Inc., New York, N. Y.
 Chun King Sales, Inc., Duluth, Minn.
- Ciba Pharmaceutical Products, Inc., Summit, N. J.
 Clapp, Otis, & Son, Inc., Boston, Mass.
 Clark Microanalytical Laboratory, Urbana, Ill.
 Clinton Foods, Inc., Corn Process Division, Clinton, Iowa.
 Colburn Laboratories, Inc., Chicago, Ill.
 Coleman Instruments, Maywood, Ill.
 Colgate-Palmolive Co., Jersey City, N. J.
 Collect-Week Corporation, Ossining, N. Y.
 Colorado Serum Co., Denver, Colo.
 Columbia Pharmacal Co., Columbus, Ohio.
 Columbus Serum Co., Columbus, Ohio.
 Columbus Vaccine Co., Columbus, Ohio.
 Columbus Water & Chemical Testing Laboratory, Columbus, Ohio.
 Commander-Larabee Milling Co., Minneapolis, Minn.
 Commercial Laboratories, Los Angeles, Calif.
 Commercial Solvents Corporation, Terre Haute, Ind.
 Conkling, Donald W., Agricultural Laboratory, Mount Dora, Fla.
 Connecticut Chemical Research Corporation, Bridgeport, Conn.
 Consolidated Products Co., Danville, Ill.
 Continental Can Co., Inc., New York, N. Y.
 Continental Coffee Co., Chicago, Ill.
 Cook Chemical Co., Kansas City, Mo.
 Co-Operative G. F. Exchange, Ithaca, N. Y.
 Corn Belt Laboratories, Inc., East St. Louis, Ill.
 Corn Products Refining Co., Argo, Ill.
 Corn States Laboratories, Inc., Omaha, Neb.
 Corning Glass Works, Corning, N. Y.
 Cotton Products Co., Inc., Opelousas, La.
 Courtaulds, Inc., Mobile, Ala.
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W

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 Wallace & Tierman, Incorporated, Belleville, N. J.
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